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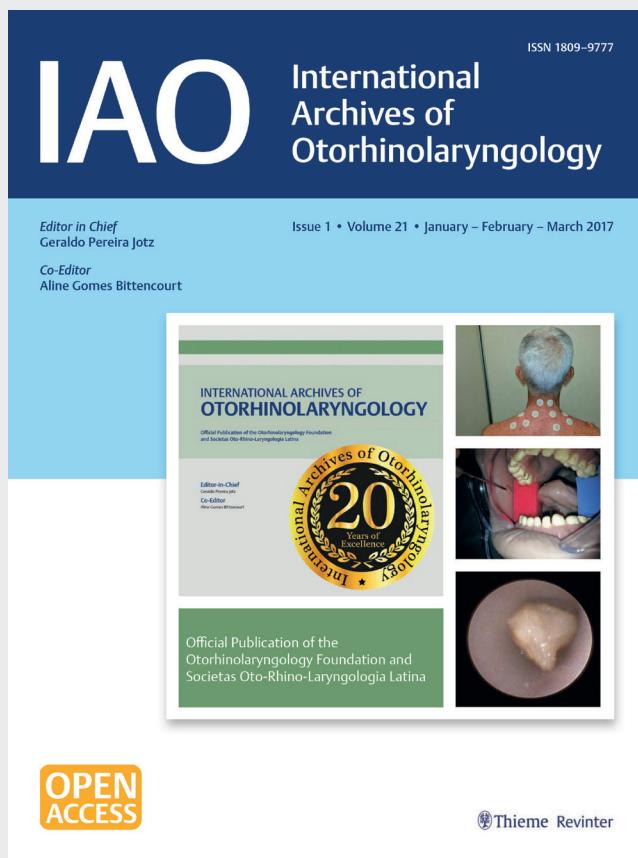
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# International Archives of Otorhinolaryngology

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# International Archives of Otorhinolaryngology

## Oral Presentations

### S1 Otorhinolaryngology

August 31, 2017, 08:00am to 06:00pm  
Room: 5

### S7 Speech, Language and Hearing Sciences

September 1, 2017, 08:00am to 06:00pm  
Room: 5

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of the authors and have not suffered journal corrections.



# Oral Presentations

## Otorhinolaryngology

### 6411. HLA-C\*17, DQB1\*03:01, DQA1\*01:03 and DQA1\*05:05 alleles associated to bullous pemphigoid in brazilian population

Azis Arruda Chagury, Julio Miranda Gil, Ivan Dieb Miziara, Luiz Ubirajara Sennes  
*Hospital das Clínicas HCFMUSP, Faculdade de Medicina, Universidade de São Paulo, São Paulo, SP, BR*

**Introduction:** Bullous pemphigoid (BP) is an autoimmune disease with bullous vesicles and an incidence of 0.2 to 1.4 per 100,000 inhabitants. Many studies have been published demonstrating the association of pemphigoid with HLA class II system alleles in different populations, however there are no data on the Brazilian population, one of the most heterogeneous in the world.

**Objectives:** The objective of the present study is to evaluate the association of the HLA system alleles of Brazilian patients with bullous pemphigoid.

**Methods:** The study group included 17 Brazilian patients with a confirmed diagnosis of BP. DNA was extracted from peripheral blood using Qiagen kits® and HLA A, B, C, DR and DQ typing was performed using PCR. The control group was composed of a database of 297 deceased donors from the city of São Paulo. The statistical significance level was adjusted using the Bonferroni correction depending on the phenotypic frequencies evaluated for HLA class I and class II (DRB1, DQB1 and DQA1).

**Results:** Our findings show that alleles HLA C\*17, DQB1\*03:01, DQA1\*01:03 and DQA1\*05:05 are associated with the onset of the disease in the Brazilian population, with relative risks of 8.31 (2.46 to 28.16), 3.76 (1.81 to 7.79), 3.57 (1.53 to 8.33), and 4.02 (1.87 to 8.64), respectively ( $p < 0.005$ ).

**Conclusion:** Our data indicate that Brazilian patients with BP present the same genetic predisposition linked to HLA-DQB1\*03:01 previously reported in Caucasian and Iranian individuals and our study introduces three new alleles (C\*17, DQA1\*01:03 and DQA1\*05:05) involved in the pathophysiology of BP.

### 6425. Importance of electroneuromonitoring of the recurrent laryngeal nerve in head and neck surgeries

Antonio Jose Assis Xavier de Souza Pinto, Nadimila de Fátima Oliveira, Eduardo Poletti Camara, Haruana Carvalho Amaral, Emerson Silva Rabelo, Laryssa Aparecida Oliveira Lomonaco  
*Universidade José do Rosário Velano-Unifenas-Alfenas*

**Introduction:** Intraoperative monitoring of the recurrent laryngeal nerve helps the prevention of injuries in this structure, determining the immobility of these structures, being developed for the preservation of its neural function.

**Objectives:** For the execution of the present study, information was collected on articles of scientific production in databases such as MEDLINE, SciELO, productions developed by the Brazilian Society of Head and Neck Surgery, primary articles (5) to understand the theme. As well as evaluating the importance of nerve monitoring in surgical practice.

**Data Synthesis:** The recurrent laryngeal nerve is a pair of branches of the vagus nerve. It is an important nerve connected to the muscles of phonation as it is the motor nerve of the larynx. The use of intraoperative neural monitoring (NIO) in thyroid surgery aims to help prevent recurrent laryngeal nerve damage during surgery or to confirm that the nerve was actually injured.

**Conclusion:** MNIO has great indications in thyroid and parathyroid gland surgeries in order to prevent lesions on the laryngeal nerves, aiming at reducing vocal fold paralysis, facilitating reoperations, especially where there was previous dissection of the nerve, facilitating goiter and those in which the presence of

neoplasias occurs. Accurate knowledge of the anatomy is the basis for performing a safe surgery and can not be replaced by intraoperative neural monitoring.

**Key words:** recurrent laryngeal nerve, anatomy, neural function.

### 6426. Congenital torticollis and the usual correction technique

Antonio Jose Assis Xavier de Souza Pinto, Rafael José Ferri Oliveira, João Pedro Cachero Lino, Ana Laura Silva Oliveira, Benedito Darci de Camargo Neto, Érica Pinoti Esteves, Eduardo Poletti Camara  
*Universidade José do Rosário Velano-Unifenas-Alfenas*

**Introduction:** Congenital muscular torticollis is one of the most common congenital diseases of childhood, consisting of a contraction of the sternocleidomastoid muscle, causing deformity of the child's neck and, when not treated early, can cause deformities, such as facial asymmetry, among others. Abnormalities, in addition to functional limitation.

**Objectives:** The composition of this article resulted from searches in the MEDLINE, SciELO and PubMed databases. Articles from previous years are cited, or found in the bibliography, to the extent of their relevance to the subject in question. As well as evaluate the usual techniques in the correction of this congenital condition.

**Data Synthesis:** There is a higher incidence in children of primiparous mothers and female patients. There is recurrence of deformities associated with incomplete release of the deep cervical fascia. In the postoperative immobilization, use of minerva-type gypsum for a few weeks, remembering that our children are older and of low socioeconomic level, which could increase the rate of recurrence of the disease.

**Conclusion:** According to the studies carried out by professionals of the area, it was observed that the great majority of this series of patients with congenital torticollis submitted to the distal release of sternocleidomastoid muscle evolved with good or excellent end result, with low complication rates.

**Key words:** Congenital muscular torticollis, sternocleidomastoid muscle, deformities.

### 6459. Dental pulp stem cells versus bone marrow stem cells in facial nerve regeneration

Larissa Vilela Pereira, Raquel Salomone, Ricardo Ferreira Bento, Jeanne Oiticica, Heloisa Juliana Zabeu Rossi Costa  
*Hospital das Clínicas HCFMUSP, Faculdade de Medicina, Universidade de São Paulo, São Paulo, SP, BR*

**Introduction:** Post-traumatic lesions of the facial nerve even when repaired with the best microsurgical techniques still present limited functional outcome. Bone marrow stem cells(BMSC) and dental pulp stem cells (DPSC) have proven to enhance facial nerve regeneration, but there aren't papers that compare the effects of these two cellular types for future clinical trials.

**Objectives:** Here, we compare the functional (compound muscle action potential-CMAP) and histological effects of DPSC or BMSC combined with polyglycolic acid tube in autografted rat facial nerves.

**Methods:** After a 5mm gap in the mandibular branch of rat facial nerve, autograft was performed, surrounded by a polyglycolic acid tube and filled with purified basement membrane matrix (groups A-D), without (control group A) and with transplantation of undifferentiated BMSC (group B), Schwann-like cells differentiated from BMSC (group C) or DPSC (group D). After six weeks, the animals were sacrificed and the analyzes performed. Immunofluorescence assays were carried out with Schwann cell marker S100 and anti- $\beta$ -galactosidase to label exogenous cells.

**Results:** Six weeks after surgery, animals from either cell-containing group had mean CMAP amplitudes significantly higher than control group and DPSC group was the one with highest values. Mean axonal diameters were also significantly higher in cell-containing groups than control group, without difference between treatment groups. Mean axonal densities were significantly higher in control group than in cell-containing groups.

**Conclusion:** regeneration of the mandibular branch of rat facial nerve was improved by DPSC and BMSC within polyglycolic acid tube, yet DPSC were associated with superior functional outcomes.

#### 6460. Olfactory changes during pregnancy and their relationship with rhinitis

Marco Aurélio Fornazieri, Richard Louis Voegels, Fábio de Rezende Pinna, Denis Massatsugu Ueda, Kleber Rodrigues e Silva, João Paulo Maximiano Favoreto, Douglas Manuel Carrapeiro Prina  
Universidade de São Paulo, São Paulo, SP, BR

**Introduction:** Pregnancy and postpartum real influence on olfactory function has not yet been established. Current data range from decreased to olfactory hypersensitivity. Moreover, there are few studies testing olfaction with validated olfactory tests in these women.

**Objective:** Quantify olfaction of women during gestational and puerperal period, compare them with non-pregnant women. Verify the interference of rhinitis on olfactory function during these periods.

**Methods:** We evaluated 186 women - 47 in the first trimester of pregnancy, 33 in the second, 44 in the third, 32 in the postpartum and 30 non-pregnant women. For the smell assessment, the University of Pennsylvania Smell Identification Test, visual analogue scales, and a questionnaire have been used, with questions relative olfactory capacity, pleasantness and intensity of representative odors. In addition, all volunteers were evaluated for the presence of rhinitis.

**Results:** Olfactory function was diminished among pregnant women in all periods when compared to controls. Their odorant identification performance was worse for fruit juice, gasoline, grape and natural gas. Pregnant women, especially in the first trimester, tended to consider smells less pleasant and intense. Pregnant and postpartum women diagnosed with rhinitis had olfactory function inferior to those without rhinitis.

**Conclusion:** Pregnant and postpartum women have a worse olfactory function than non-pregnant. There is a general decrease in olfaction, with no clear evidence of selective loss of ability to smell specific odors. Presence of rhinitis may be one of the factors responsible for this decreased capacity to sense odorants during pregnancy and puerperium.

#### 6479. Listening closely: the role of otolaryngology in primary health care

Rachel Bichara Izai, Gabriel Augusto Pinto Barbosa, Carolina da Fonseca Mussel Jones, Flavia Zuchen, Felipe Souza Vieira, André Luiz Machado da Costa Uchoa, Carolina dos Anjos Sampaio  
Fundação Técnico Educacional Souza Marques

It is estimated that around 25% of all consults in the primary care are due to otolaryngology issues. The raise in antibiotic resistant bacteria incidence is intimately related to the irregular use of antibiotics otolaryngology pathologies. This update bring to the surface how relevant the basic otolaryngology knowledge of the generalist/family doctor is for properly treat patients in the Family Health Clinics - the entrance to the primary health care system. Otolaryngology have been recognizing the importance of initial evaluation for a better clinical approach and care. Many complaints in Otolaryngology can and should be managed on a primary care surgery, and accelerates the access to specialists for those cases that are more complex and for specific procedures and other diagnosis. The qualified training of family physician also can reduce the incorrect or unnecessary use of antibiotics. It is fundamental to have a Referral and Counter-Referral System (RCR), understood as the mutual referral of patients between the different levels of service complexity, being defined as "key elements of work practices reorganization that must be guaranteed by Family Health Teams". However, this system presents with certain problems such as the low degree of control by the managers and difficulties in Referrals to other specialties and its subsequent Counter-Referral. Therefore, it is extremely important the Family Physicians Otolaryngology knowledge, not only for the correct treatment of simple comorbidities, but also for the referral of patients to the Secondary or Tertiary Care.

#### 6551. Allergy to the pollen of graminees: study of the correlation between the prevalence of four species performed in the prick test

Lucas Antonio Gusato, Danielle Candia Barra, Sergio Fabricio Maniglia, Flávio Massao Mizoguchi, Guilherme Rocha Netto  
IPO - Hospital Paranaense de Otorrinolaringologia

**Introduction:** Pollen disease, pollen or seasonal allergic rhinitis is due to sensitization to the components of pollen, and pollen allergens cause clinical symptoms when in contact with the mucosa of the respiratory tract and the conjunctiva of previously sensitized individuals.

**Objective:** To statistically correlate the positive test prevalences among grass species in the Prick test (*Cynodon dactylon* "Common Grass or Bermuda", *Festuca pratensis* "Grass of Prado", *Dactylis glomerata* "Grass Rhodes", *Lolium multiflorum* "Azevém"), To identify the size of the papules of each pollen species, from September 2014 to September 2015, and to relate it to the sex of the population with polinosis.

**Methodology:** Retrospective cross-sectional study, reviewing electronic records of patients from Curitiba and region, who performed pollen positive skin examination at the IPO Rhinitis and Allergy Center (CRA), from September 2014 to September 2015.

**Outcome:** Grasses are highly representative of the Prick test, appearing in this study in 41.8% of the Prick test positive. *Dactylis glomerata* (Grass Rhodes) was the most common grass of the test followed by *Festuca pratensis* (Grass of the Prado) being also more prevalent in the male sex. In 76.5% of the positive tests for grasses, they present a correlation between two or three of them: *Dactylis glomerata* (Grass Rhodes), *Festuca pratensis* (Grass of Prado) and *Lolium multiflorum* (Azevém).

**Conclusion:** The size of the papules varied according to the months of the year, highest in July, September, October and November.

**Key words:** pollen, allergic rhinitis, pollen disease, pollens.

#### 6579. Study of the anthropometric measures of the previous ethmoidal artery by three-dimensional tomography in 300 patients in the Hospital IPO

Vinicius Tomadon Bortoli, Rafael Ferri Martins, Carlos Alberto Kuntz Nazário  
IPO - Hospital Paranaense de Otorrinolaringologia

**Introduction:** The anatomical knowledge of nasosinusal cavity structures is essential for the safety and efficacy of nasal endoscopic surgery. The anterior ethmoidal artery (SAA) is one of the main arteries that irrigate the nasal mucosa and the ethmoidal sinuses and presents variability in the distances of adjacent structures. Several studies have developed techniques to facilitate the recognition of AEA.

**Objectives:** To compare EEA measurements to the ethmoidal bull and to the frontal beak, using face tomography, identifying intra and interindividual variations.

**Methodology:** A retrospective study was carried out in 2015, where 300 face CT scans were performed at the IPO Hospital.

**Results:** The mean age was  $36 \pm 15.1$  years, with a minimum age of 4 years and a maximum of 84 years. It was verified that the mean distance AEA-Bula ethmoidal was  $17.2 \pm 1.8$  mm and the AEA-Bico distance of the frontal was of  $15.1 \pm 2.2$  mm. There was a difference between the sides as to the mean of AEABico of the frontal, being that the right side had a mean 0.4 mm greater than the left side. Among the age groups, there was a significant difference for AEA-Bula ethmoidal, being smaller in the group  $\geq 12$  years; For AEA-Nozzle of the frontal there was no difference.

**Conclusion:** There was no difference between the sexes. There was a positive and significant correlation between the two measures evaluated, and low (high) levels of SAA-Bula ethmoidal corresponded to low (high) AEA-Bottom values.

**Key words:** Ethmoidal sinus, Anatomy, Tomography.

**6601. Study of the electrophysiological findings in VEMP in patients with vestibular paroxysmia**

Priscila Yukie Aquinaga, Julian Pablo Stavarengo, Claudia Busato, Lilian Cristina Goncalves Scharam, Gislaine Richter Minhoto Wiemes, Alexandre Camilotti Gasperin

Ipo-Hospital Paranaense de Otorrinolaringologia

**Abstract:** Vestibular paroxysm (PV) is attributed to vascular compression of the vestibulocochlear nerve (VIII cranial nerve) by a vascular loop, associated with short and recurrent vertigo attacks, responsive to the use of antiepileptic drugs.

**Objective:** to correlate electrophysiological findings of VEMPs to magnetic resonance imaging of compression of the nerve VIII, by vessels of the posterior fossa in patients with vertigo complaint, auditory and vestibular deficit, so that they can identify or corroborate the diagnosis of Vestibular Paroxysmia.

**Method:** A retrospective study by the medical records of 993 patients attended at the Institute of Hearing and Equilibrium of the IPO Hospital, who underwent VEMPs from 01/01/2014 to 01/05/2016, with selection of 75 patients with resonance finding of the vascular loop in contact with the vestibulocochlear nerve.

**Results:** Dizziness was the most frequent symptom (48%), followed by tinnitus (37%) and hearing loss (36%). There was a mild prevalence of bilateral vascular loops (50.7%), compared to unilateral loops (49.3%), most of type I (49%), type II and III were found in 11% and 6% respectively, and Without classification in 12%. The VEMPs did not present an apparently specific tracing when the wave was read alone.

**Conclusion:** VEMPs is an important exam in the investigation of auditory and vestibular pathologies. It provides unique information about saccule and inferior division of the auditory nerve, however it does not present characteristic findings in the patients with PV and should be complemented with other diagnostic methods.

**Key words:** Vestibular paroxysms; Vascular handle; Vestibulo-cochlear nerve; vertigo; Tinnitus.

**6642. Duplication by fibro-bone bridge of bilateral transversal forame and its aspects on manifestation in basilar syndrome**

Eduardo Poletti Camara, Rafael José Ferri Oliveira, Érica Pinoti Esteves, Benedito Darci de Camargo Neto, Ana Laura Silva Oliveira, Antonio Jose Assis Xavier de Souza Pinto, Francisco Sales de Almeida

Universidade José do Rosário Vellano - Unifenas

**Introduction:** The cervical region consists of seven cervical vertebrae, functional disorders are common and normal anatomical characteristics may vary and degenerative changes such as osteoarthritis occur. The transverse foramen forms in the transverse process of these vertebrae and is located symmetrically on the sides. It is smaller or may be absent in the last of the cervical vertebrae, C7.

**Objectives:** To report the anatomical findings regarding the bilateral presence of a double transverse foramen and its implications in the irrigation and nutrition of the cervical and cranial regions. The composition of this article resulted from research in the MEDLINE, SciELO and PubMed databases.

**Data Synthesis:** Srijit Das (2005) reported two cases of double cervical transverse foramen in humans in a sample of 132 vertebrae. Anatomically, the transverse foramen is divided by a fibrous or bony bridge, separating the artery and the vein. Foraminal Duplication is rarely found in less than 1% of anatomical samplings. The patient with this variation a decrease in cerebral blood flow or marked blood swirling, being reflected in cases of decreased auditory perception, idiopathic labyrinthitis and basilar syndromes.

**Conclusion:** It was concluded that the main regional characteristics of cervical vertebrae are the presence of transverse bore, bifurcated spiny process, small or large vertebral body bore. The morphological variation of the transverse foramen may lead to functional disorders such as dizziness, ear noises, headache and basilar syndrome due to vertebrobasilar insufficiency.

**Key words:** Basilar Syndrome, Fibro-Bone, Transversal Forame.

**6663. Cochlear neuropathy in human presbycusis: confocal analysis of hidden hearing loss in post-mortem tissue**

Lucas Moura Viana, Carlos Augusto Costa Pires de Oliveira  
Universidade de Brasília

Recent animal work has suggested that cochlear synapses are more vulnerable than hair cells in both noise-induced and age-related hearing loss. This synaptopathy is invisible in conventional histopathological analysis, because cochlear nerve cell bodies in the spiral ganglion survive for years, and synaptic analysis requires special immunostaining or serial-section electron microscopy. Here, we show that the same quadruple-immunostaining protocols that allow synaptic counts, hair cell counts, neuronal counts and differentiation of afferent and efferent fibers in mouse can be applied to human temporal bones, when harvested within 9 h post-mortem and prepared as dissected whole mounts of the sensory epithelium and osseous spiral lamina. Quantitative analysis of five "normal" ears, aged 54-89 yrs, without any history of otologic disease, suggests that cochlear synaptopathy and the degeneration of cochlear nerve peripheral axons, despite a near-normal hair cell population, may be an important component of human presbycusis. Although primary cochlear nerve degeneration is not expected to affect audiometric thresholds, it may be key to problems with hearing in noise that are characteristic of declining hearing abilities in the aging ear.

**6683. Cephalometric measurements and pharyngeal dimensions in snoring children with adenotonsillar hypertrophy: effect of an orthodontic and orthopedic oral appliance**

Walter Ribeiro Nunes Junior, Renata Cantisani Di Francesco  
Faculdade de Medicina FMUSP, Universidade de São Paulo, São Paulo, SP, BR

**Objectives:** Altered craniofacial growth has been implicated in sleep-disordered-breathing (SDB) in children. We aimed to evaluate the pharyngeal dimensions and cephalometric measurements related to SDB in snoring children with adenotonsillar hypertrophy (ATH) treated with an orthodontic/orthopedic oral appliance (OOOA).

**Methods:** Forty habitually snoring children, 6-9 years old with evidence of grade 3-4 ATH, maxillary constriction and class II dental malocclusion were enrolled, with 24 children being treated with OOOA, and 16 remaining untreated as controls. All children underwent a cephalometric X-ray and acoustic pharyngometry for airway measurements before and 6 months after treatment.

**Results:** OOOA treatment revealed symptomatic improvements in snoring as well as in minimum cross-section area (MCA) ( $0.2 \pm 0.2$  cm<sup>2</sup>) and in airway volume (V) ( $3.15 \pm 2.5$  cm<sup>3</sup>), while reductions in MCA ( $-0.2 \pm 0.3$  cm<sup>2</sup>) and in V ( $-1.25 \pm 1.3$  cm<sup>3</sup>) occurred in controls ( $p < 0.001$  vs. OOOA). Cephalometric measurements related to SDB were reduced in the treated group ( $p < 0.01$ ) as follows: maxillary-mandibular relationship:  $-2.2 \pm 1.70$ ; maxillary-mandibular planes angle:  $-2.4 \pm 3.80$ ; and hyoid bone position:  $-4 \pm 3.8$  mm ( $p < 0.001$ ).

**Conclusions:** OOOA 6-month treatment in snoring children can promote enlarged pharyngeal dimensions and cephalometric beneficial changes along with symptomatic reductions.

**Key words:** Child, Maxillofacial development, Tonsils, Snoring.

**6715. Expression of leukotriene receptors 1 and 2 in the cellular surface of B and T lymphocytes of hyperplastic adenoids of children: comparison between allergic and non-allergic**

Bruno Peres Paulucci, Renata Cantisani Di Francesco  
Departamento de Otorrinolaringologia, Hospital das Clínicas HCFMUSP, Faculdade de Medicina, Universidade de São Paulo, São Paulo, SP, BR

**Background:** Cysteinyl leukotriene receptors (CysLTR1/CysLTR2) activation occurs in allergic inflammatory responses; recent studies have suggested that these receptors also play a role in adenotonsillar hyperplasia (AH) in children. However, the relevance of respiratory allergies in the physiopathology of AH remains unclear.

**Methods:** Consecutive children aged 5 to 10 years referred for adenoidectomy and tonsillectomy were divided into allergic (AL-positive prick test) and non-allergic (NA-negative prick test) groups. Cells from removed adenoids were stained for CysLT1R, CysLT2R, CD19, CD3 and counted via flow cytometry. The RNA expressions of the CysLT1 and CysLT2 genes were measured using RT-qPCR.

**Results:** Thirty AL and thirty NA individuals were enrolled. AL children had worse sleep quality indexes. Regarding the cell population, the AL children showed a reduced expression of small CD3+/CysLT1+ lymphocytes ( $4.6 \pm 2.2$  vs  $6.5 \pm 5.1$ ;  $p=0.04$ ). Regarding large lymphocytes, the AL children had lower expressions of CD3+/CysLT1+ ( $40.9 \pm 14.5$  vs  $47.6 \pm 11.7$ ;  $p=0.05$ ), CD19+/CysLT1+ ( $44.6 \pm 16.9$  vs  $54.1 \pm 12.4$ ;  $p=0.01$ ), and CD19+/CysLT2+ ( $55.3 \pm 11.3$  vs  $61.5 \pm 12.6$ ;  $p=0.05$ ) lymphocytes. Considering the total number of lymphocytes, AL children had fewer CD3+/CysLT1+ lymphocytes ( $11.1 \pm 5.5$  vs  $13.7 \pm 6.2$ ;  $p=0.04$ ). All other cell populations exhibited reduced expression in the AL group without statistical significance. The mRNA expression, did not show statistical differences between groups.

**Conclusions:** The expressions of CysLT1 and CysLT2 are higher in the lymphocytes of hyperplastic tonsils in NA children. Respiratory allergies do not appear to be a stimulus for AH occurrence. Newer drugs capable of blocking both leukotriene receptors warrant further study.

#### 6718. Expression of CysLT1 and 2 in maturing lymphocytes of hyperplastic tonsils compared to peripheral cells in children.

Bruno Peres Paulucci, Renata Cantisani Di Francesco  
Departamento de Otorrinolaringologia, Hospital das Clínicas HCFMUSP, Faculdade de Medicina, Universidade de São Paulo, São Paulo, SP, BR

**Background:** Cysteinyl-leukotriene receptor 1 and 2 (CysLT1 and 2) are related to allergic inflammatory responses. Recent studies demonstrated their role in lymphocyte division and maturation in bone marrow. Few data are available about CysLTs function in lymphocyte maturation in tonsils.

**Objective:** to compare CysLTs expression in peripheral blood lymphocytes with expression in maturing lymphocytes of hyperplastic tonsil; to check the influence of respiratory allergies in this process.

**Methods:** Leukocytes of peripheral blood (PL) and hyperplastic tonsils of children were immunostained for CysLT1, CysLT2, CD3 (T cells) and CD19 (B cells) and read in flow cytometer. Lymphocyte of tonsils were divided in differentiating small cells (SC) and mitotic large cells (LC); percentage of B and T- cell expressing CysLTs was determined and comparison was done using ANOVA and Tukey's tests. Data were analyzed as a whole and categorizing patients according the presence of allergies.

**Results:** 60 children were enrolled in this study. There was large expression of CysLT1 and 2 in CD3+ LC and such expression decreased progressively in SC and PL. In B cells, the highest expression of CysLT1 and 2 was found in PL while SC showed the lowest and LC showed the highest expression. This pattern kept unchanged in groups of allergic and non-allergic individuals.

**Conclusions:** CysLTs seems to be involved in lymphocyte maturation that occurs in tonsils, without influence of allergies. New studies aiming the clinic treatment of tonsil hyperplasia must be targeted to the development of drugs capable of blocking both CysLT1 and 2.

#### 6757. Diagnosis of the Secondary Syphilis for Oral Injuries

Sarah Santos Nascimento, Ana Cristina da Costa Martins, Karla Mariana Santos Tassara, Rafael Soares Leonel de Nazaré, Marcela Weber de Jesus, Thais Ariane Turra Picolo  
Pontifícia Universidade Católica do Rio de Janeiro/ Septo - Serviço Especializado em Prevenção e Tratamento Otorrinolaringológico

**Introduction:** Syphilis is a systemic infectious-contagious disease caused by *Treponema pallidum* and transmitted by sexual or vertical contact. Can be classified as recent, late or congenital. Although the oral manifestations are more frequent in the secondary phase, all stages of the disease may present them.

**Objective:** To report a case of secondary syphilis, the diagnosis of which was oral lesions.

**Case Report:** MFSR, female, 16 years old, had painful lesions on the palate and Lips 7 months ago. During the anamnesis she reported a history of sexual relation without intercourse. It refers to treatment with acyclovir for 5 months, but without effect. In the physical exam lesions of vegetative aspect, erythematous, with whitish parts of palatine tonsils, tonsillar pillars, uvula, hard palate, jugal mucosa and lips and also granulomatous lesion in right labial commissure. No skin lesions were identified. As the diagnostic hypothesis was of recent secondary syphilis, the patient was submitted to incisional biopsy followed by treponemal tests and serology for HIV. The positive result of VDRL (1/512) and the rapid test for syphilis (DPP), confirmed the diagnosis of syphilis, and treatment with benzathine penicillin was initiated. The serology for HIV was negative. Histopathological exam revealed pseudoepitheliomatous hyperplasia. A week after the beginning of the treatment, there was a significant improvement of the lesions.

**Conclusion:** Knowledge of oral manifestations of secondary syphilis is extremely important for the suspicion of the disease, and in many cases is the first sign that may guide to early diagnosis to begin the treatment.

#### 6767. Autonomic Nervous System responses to autonomic challenges in Upper Airway Resistance Syndrome patients differ from Obstructive Sleep Apnea

Luciana Balester Mello de Godoy, Dalva Poyares, Sonia Maria Togeiro, Leonardo J. Otuyama, Luciana Oliveira Palombini, Sergio Tufik  
Universidade Federal de São Paulo - Unifesp

**Introduction:** Moderate-to-severe OSA patients present autonomic nervous system (ANS) dysfunction, however, less is known about Upper Airway Resistance Syndrome (UARS).

**Objective:** To compare UARS and OSA ANS responses to autonomic challenges, such as resting, deep breathing, Valsalva maneuver and stand position using ANSAR technique.

**Methods:** Forty age and sex matched patients were studied: 20 UARS and 20 moderate-to-severe OSA (Apnea/hypopnea IndexAHI > 20 events/hour). UARS criteria were presence of sleepiness (Epworth Sleepiness Scale  $\geq 10$ ) and/or fatigue (Modified Fatigue Impact Scale  $\geq 38$ ) associated to AHI  $\leq 5$  and Respiratory Disturbance Index (RDI)  $> 5$  events/hour and/or more than 30% of total sleep time with flow limitation. ANSAR testing estimates autonomic response by analyzing respiratory signal, blood pressure and ECG responses to standard ANS challenges.

**Results:** During ANSAR resting baseline, OSA patients presented higher mean heart rate (HR) ( $p = 0.03$ ), higher sympathetic and parasympathetic measures ( $p=0.03$  and  $p=0.002$ ), lower autonomic variability ( $p=0.01$ ), higher systolic (SBP) and diastolic (DBP) blood pressures ( $p<0.01$ ) compared with UARS. During deep breathing challenge, OSA patients presented higher mean HR ( $p=0.04$ ), higher SBP and DBP ( $p<0.02$ ), while UARS patients presented higher autonomic variability ( $p=0.04$ ). During Valsalva challenge, UARS presented higher autonomic variability ( $p=0.01$ ) and parasympathetic tone ( $p=0.03$ ). During stand position challenge, UARS patients presented parasympathetic trend ( $p=0.01$ ) and OSA presented higher SBP ( $p=0.002$ ).

**Conclusion:** UARS ANS responses to autonomic challenges differ from OSA particularly in parasympathetic branch. OSA patients had sustained higher blood pressure and lower autonomic variability after challenge, when compared to UARS.

#### 7731. Application of free diced cartilage for rhinoplasty: refining in nasal back and tip of one otorhinolaryngology residence service

Flávia Caroline Klostermann, Joao Paulo Contieri, Byanca Hekavei Hul, Carolina Branco Andreatta, Carolina Pedrassani de Lira, Melissa do Rocio Regazzo Porto  
Hospital Universitário Evangélico de Curitiba

**Introduction:** In order to improve facial aesthetics, many surgical techniques have been developed to sculpt the nose structure.

We developed this work to highlight the use of autogenous free diced cartilage grafting because of its effectiveness in filling in irregularities and defining the nasal contour.

**Objectives:** This study aims to report an amount of 76 cases of rhinoplasty performed at the Hospital Universitário Evangélico de Curitiba from 2016 to 2017, analyzing the proportion of cases in which were used chopped cartilage as a method of filling and changing the nasal contour.

**Method:** retrospective analysis of operative records of patients submitted to rhinoplasty at a Otorhinolaryngology service of a university hospital, from January 2016 to March 2017.

**Results:** 76 patients were operated on. Thirty five patients required grafts on the back, of these, 77% used free diced septal cartilage (24 in nasion, 2 in rinion and 1 in náson and rhinion). When considering nasal tip, 45 patients required grafts, 35% of the cases used free diced septal cartilage (11 were only supratip, 2 in soft triangle, 1 in nasal tip, 1 in supratip and soft triangle and 1 in supratip and tip).

**Conclusion:** In our service, there is a high degree of satisfaction of postoperative result with use of chopped cartilage. It allows improving small imperfections in various areas of the nose providing natural aesthetic results and a low rate of complications.

**Key words:** free diced cartilage, rhinoplasty, cartilage.

#### 7744. Impact of communication technologies on sleep

Camila de Castro Corrêa, Silke Anna Theresa Weber, Letícia Dominguez Campos  
Botucatu Medical School - State University São Paulo, UNESP

**Introduction:** Inappropriate habits and behaviors as the excessive use of communication technologies can worsen sleep quality.

**Purpose:** To investigate the impact of the use of communication technologies on sleep, comparing different age ranges.

**Methods:** Individuals from the general population were invited. The questionnaire "Sleep Time-Related Information and Communication Technology" (STRICT) consists of 11 questions about the use of technologies near or at bedtime, answers ranging from "No Influence" to "Low", "Medium" or "High" influence on sleep, with "0" representing no influence and "42" maximum correlation of the use of technologies and sleep alterations. Participants were divided into 5 groups: GA: 13 to 19 years, GB: 20 to 29 years, GC: 30 to 39 years, GD: 40 to 49 years, GE: 50 to 75 years.

**Results:** 90 individuals completed the questionnaires : GA - 22 individuals, GB - 25 individuals, GC - 17 individuals, GD - 12 individuals, G E - 14 individuals, with the sum of the questionnaire: GA - 20.3; GB - 22.2; GC - 15.8; GD - 17.5; GE - 15.0. Higher scores were observed in groups A and B, on questions related to time spent using technologies in bed and to messages sent/received during the night when in bed, in addition to unfavorable sleeping hours.

**Conclusion:** Young individuals (13 to 29 years old), suffered a greater impact of technologies on sleep, due to an intense use of the technologies even after going to bed. More educational actions which show the influence of technologies on sleep are necessary.

**Key words:** Health Promotion; Sleep; Sleep Disorders.

#### 7758. Laryngeal microsurgery in children: when and why

Regina Helena Garcia Martins, Dândara Bernardo Siqueira, Andréa Cristina Joia Gramuglia, Elaine Lara Mendes Tavares  
Faculdade de Medicina de Botucatu - Unesp

**Introduction:** Dysphonia affects 10% of children, especially boys. Nodules are the most frequent lesions followed by cysts, sulcus and papillomatosis. There is no consensus among the authors regarding the indications of microsurgery in children, except for cases with dyspnea and/or stridor.

**Objectives:** To evaluate the surgical indications and the evolution of children submitted to laryngeal microsurgery in our university.

**Methods:** a cross-sectional study that included children from 4 to 18 years who were discharged at an University Hospital in the last seven years with indication of laryngeal microsurgery. Exclusion: children with estridor, children who did not allow videolaryngoscopy or dubious diagnoses. Treatment outcomes: total improvement

(without symptoms and normal videolaryngoscopy), partial or no improvement.

**Results:** 59 patients underwent microsurgery (M-25; F-34) due to: epidermal cysts (19), nodules (18), papillomas (9), sulcus (6), granulomas (3), synechia (1), bilateral bridge (1), type IV microweb (1), hermaphroditism (1). Of the 18 nodules, 4 were associated with the microweb type 1. Of the nine children with papilloma, eight presented recurrences. Of these, two received tetravalent HPV vaccine. The six cases of sulcus performed microsurgery after puberty, as well as the case of bridge. Type IV thyroplasty was performed in the hermaphrodite child. Regular speech therapy was performed on nodules, cysts, sulcus and bridge.

**Conclusions:** We presented the indications of laryngeal microsurgery adopted in our university in dysphonic children, with their respective justifications and the evolution of the each lesion in order to share our experience with other authors.

**Key words:** microsurgery, dysphonia, children.

#### 7760. Evolution of vocal nodules in boys after puberty and participation of microweb in unfavorable course.

Regina Helena Garcia Martins, Dândara Bernardo Siqueira, Andréa Cristina Joia Gramuglia, Elaine Lara Mendes Tavares, Adriana Bueno Benito Pessin

Faculdade de Medicina de Botucatu - Unespmedicina de Botucatu - UNESP

**Introduction:** Vocal nodules tend to reabsorb after puberty, especially in boys, due to the growth of the larynx. The maintenance of these lesions can be attributed to the microweb.

**Objective:** to analyze the evolution of vocal nodules in boys after puberty and to investigate the role of microweb in the persistence of these lesions.

**Methods:** Study design: Cross-sectional Cohort. Clinical and videolaryngoscopic evaluations were performed in boys with vocal nodules, until 17 years or as soon as there was remission of symptoms and reabsorption of the nodules. Inclusion criteria: boys with vocal nodules who underwent vocal therapy during at least one year. Exclusion criteria: children submitted to laryngeal microsurgery, girls, deafness, or doubtful diagnosis. Outcomes: Remission of symptoms and normal videolaryngoscopy.

**Results:** 34 boys with nodules were diagnosed, but only 21 completed the follow-up. Mean age of onset and end of treatment were, respectively, 9 (5 to 11 years) and 14 (13 to 18 years). The number of videolaryngoscopy per child was five.

**Results:** After adolescence there were complete remission of symptoms and of the lesions in 15 children (71.4%), partial remission in 4 (19.0%), and no improvement in 2, in which videolaryngoscopy indicated the presence of microweb and nodules.

**Conclusions:** the favorable evolution of the vocal nodules after adolescence was observed in the majority of the boys who performed voice therapy, however, in two cases there was no remission of symptoms and of the lesions. The unfavorable course can be attributed to microweb.

**Key words:** vocal nodules, boys, microweb.

#### 7782. Electronic protocol for multicenter study in laryngology

Lorena Cristina Peres Rodrigues Gomes, Ian Selonke, Paulo Antonio Monteiro Camargo, Bianca Simone Zeigelboim, Diego Augusto Malucelli, Vinicius Ribas Fonseca

Department of Otolaryngology Head and Neck Surgery of the Brazilian Red Cross Hospital - Paraná Branch

**Introduction:** Serial studies of patients are ground on evidence-based medicine and contribute to establishment of more appropriate management for different diseases. Electronic protocols make it easy to organize, store, and retrieve data. Thus, the development of these together with clinical data collection are extremely useful tools in producing quality medical literature.

**Objectives:** Create specific electronic protocol for laryngeal affections, in order to systematize care of patients who need to be evaluated by senior laryngologist, for subsequent multicenter study.

**Methods:** The protocol developed was based on the Johns Hopkins Voice Center and required adjustments to the target audience. Through HandDBase® software was possible to create your electronic version. This platform is available for systems such IOS and Android on mobile devices and enables the storage of data and audiovisual content. Different approaches to classifications, filters and searches can be performed within this database. Your content can be printed and synchronized with other digital platforms. Google Drive® has been used to turn videos of exams and surgeries recorded on DVD into a hyperlink, which can be accessed through this software connected to internet.

**Results and Conclusion:** The protocol proved to be effective and feasible in diagnostic investigation of laryngeal diseases and in the follow-up of these patients. This electronic platform was a great help in quickly filling data and in easy access to the information. It can be adapted to other medical specialties, being instrument to facilitate the collection of statistical data, encouraging scientific research for multicentric studies.

**Key words:** protocol; study; data.

#### 7789. An open pilot study to evaluate efficacy and safety of olanzapine to treat tinnitus

Ricardo Rodrigues Figueiredo, Andréia Aparecida de Azevedo, Norma de Oliveira Penido

Tinnitus Research Initiative, Universidade Federal de São Paulo, Faculdade de Medicina de Valença

**Introduction:** Many neuronal circuits are supposed to be involved in tinnitus pathophysiology, including dopaminergic and serotonergic ones. Olanzapine is an anti-psychotic drug that acts as a D2 and 5HT2A antagonist at mesolimbic and pre-frontal pathways.

**Method:** Fifteen tinnitus patients screened, 5 mg daily olanzapine for 12 weeks, outcomes measured with THI and CGI.

**Results:** Twelve patients completed the trial. THI ( mean +/- SD) = 53.1 +/- 32.0 at screening, 38.2 +/- 28.3 final ( paired t test = 2.3, p = 0.04); CGI = 8 patients improved. Mild side effects in 2 patients. Discussion: Dopamine and serotonin neuronal pathways may be an interesting target to treat tinnitus. Unlike other anti-psychotic drugs, olanzapine side effects are mild with 5 mg per day dosage.

**Conclusion:** Olanzapine may be an alternative to treat tinnitus. Randomized trials are needed to confirm its potential.

**Key words:** tinnitus, olanzapine

#### 7883. Paparella e-Learning: a new tool for otologic surgery education

Luiz Carlos Alves de Sousa, Júlia Maria Amaral Ambrósio, Paulo Francisco de Sousa, Aldo José Bellodi, Daiane Oliveira Braga  
Clinica Paparella

**Introduction:** The advance of the modern medicine and the development of subspecializations makes impossible that residents conclude their specialization with complete knowledge in all otorhinolaryngology fields, especially in some specific surgical areas. In the latest years we are seeing an exponential increasing of the online courses, however, in the medicine, it seems not to be so widespread, even more in the otorhinolaryngology. We developed an online otologic surgical course that makes possible that specialists update themselves, learning not only already well-known otologic surgeries techniques on its highest complexity but also the new technologies available for this area.

**Objectives:** Paparella e-Learning has the objective to complement the skills of residents who have just finished their clinical and surgical training, and offering to the ENT specialist resources to do surgical procedures of higher complexity.

**Data Synthesis:** This is a 12-hour course that contains 54 video classes, divided in 10 modules. All videos have English subtitle and the website can also be surfed in English. Using videos of surgeries that were recorded over the years we discuss several clinical cases and their propaedeutic bases that supported us for surgical indications and choice of technique for each one of these cases.

**Conclusion:** Paparella e-Learning is a new tool for otologic surgery education with potential to reach ENT colleagues all over the world leading advanced knowledge in otology.

**Key words:** Otologic Surgical Procedures, Continuing Medical Education, Distance Education.

#### 7905. Gustatory dysfunction after head and neck radiotherapy treatment

Marco Aurélio Fornazieri, João Victor Massamitsu Katayama Miyazaki, José Lucas Barbosa da Silva, Fábio de Rezende Pinna, Richard Louis Voegels

Universidade Estadual de Londrina

**Introduction:** Radiotherapy on patients with Head and Neck Cancer can lead to taste disorders, such as partial or total loss, and qualitative dysfunctions as dysgeusia and phantogeusia. It is not established in the literature degree of recovery, time for this retrieval, influence of different sites of irradiation, and the most affected flavor after head and neck radiotherapy.

**Objectives:** Quantitatively measure taste loss for the four main tastants and time for function recovery in patients with head and neck cancer undergoing radiotherapy including or not the oral cavity.

**Methods:** Fifty-six patients with head and neck were submitted to a specific questionnaire and to the Whole-Mouth Modified Test before, immediately after, 3 months and 6 months after radiotherapy.

**Results:** Gustatory function decreased immediately after the end of the radiotherapy in all patients ( $p < 0.01$ ), with a significant number of patients presenting severe hypogeusia and ageusia at this time. Patients with direct radiotherapy to the oral cavity showed total improvement after three months of treatment, while those whose irradiation field did not include the mouth maintained partial gustatory loss, probably related to chemotherapy. At the end of radiotherapy, permanent partial loss was observed for bitter in some patients.

**Conclusion:** Radiotherapy causes a significant decrease in gustatory capacity of head and neck cancer patients immediately after its end, with total recovery in those whose irradiation field did not include the oral cavity. Bitter is the most affected taste in these cases. Even patients who present ageusia after radiotherapy may recover normal gustatory function.

#### 7971. Malignant neoplasms of the external ear and temporal bone: series of cases in a tertiary service

Tamires Ferreira Siqueira, Renato Colenci, José Vicente Tagliarini, Dândara Bernardo Siqueira, Lucas Spina, Camila Sá de Melo Campos, Carlos Segundo Paiva Soares

Universidade Estadual Paulista Júlio de Mesquita Filho FMB/UNESP

**Introduction:** Malignant tumors affecting the ear are uncommon. The main sites of origin are the auricular pavilion, external auditory canal, middle ear and mastoid, respectively. Temporal bone tumors are manifested with nonspecific symptoms which are often attributed to inflammatory ear diseases. Thus, although they have a superficial location, the diagnosis is often postponed.

**Objectives:** To describe a series of cases of malignant neoplasms of the ear, discussing the surgical approach, histopathological diagnosis, complications and follow-up time.

**Methods:** Retrospective, descriptive and analytical study based on a review of the medical records of patients submitted to surgical resection of malignant neoplasms affecting the ear skin, external auditory canal and temporal bone, from January 2000 to June 2016. It was included 16 patients submitted to tumor resection according to disease staging, only 3 patients were in the initial stage of the disease; the remaining 13 patients were submitted to lateral or subtotal resection of the temporal bone.

**Results:** A high incidence of external ear skin tumors (squamous cell carcinomas, basocellular and adenosquamous carcinomas) was observed, with the need for lateral or subtotal temporal bone resection. As well as high incidence of postoperative complications (peripheral facial paralysis, infection, dehiscence, necrosis and death).

**Conclusion:** Meticulous evaluation of suspicious lesions in the external ear is essential for early diagnosis. In addition to the careful evaluation to define the extent of injury and involvement of adjacent structures, considering patients' clinical conditions and appropriate follow-up.

**Key words:** surgical resection, malignant tumors of the ear, temporal bone tumors.

#### 7995. Dysphonia in the elderly: beyond presbyphonia

Adriana Bueno Benito Pessin, Regina Helena Garcia Martins, Elaine Lara Mendes Tavares, Andréa Cristina Joia Gramuglia, Maira Garcia Martins, Carlos Segundo Paiva Soares  
Faculdade de Medicina Botucatu - UNESP

**Introduction:** The voice of the elderly goes through several modifications resulting from the natural aging process. However, individual characteristics, life habits and other intrinsic and extrinsic factors can develop pathologies that compromise the vocal folds, associated or not to presbyphonia.

**Objective:** To identify structural changes in the vocal folds of the elderly no related to presbyphonia.

**Methods:** Retrospective study. Were analyzed the medical records and videolaryngoscopy of 94 elderly (ages range from 60 to 87 years old) attended at the voice clinic in the last four years.

**Results:** Gender: 53 participants (56.38%) female and 41 (43.62%) male. The main complaint reported were hoarseness and decrease voice, tremor and throat clearing. In the videolaryngoscopy normal results was observed in 14 patients (14.94%). The characteristic diagnoses of presbylarynx such as atrophy and vocal fold bowed were verified in 10 patients (10.64%) and in five (5.32%) had a presence in those changes with structural damage (groove, cyst and microweb). Whereas the alterations not related to the aging process, Reinke's edema was more prevalent (n=9; 9.57%). Left vocal fold paralysis was observed in five cases (5.32%), iatrogenic paralysis in five (5.32%) and right vocal fold in four (4.25%). We also highlight Leukoplakia (n=6; 6.38%); Pachydermia (n=4; 4.25%); Dystonia (n=3; 3.19%); Neoplasia (n=3; 3.19%); Saccular cyst (n=2; 2.13%); Acid laryngitis (n=2; 2.13%) among others.

**Conclusion:** Many researches are done by focusing on presbyphonia, however a significant number of elderly people present other pathologies that need a correct diagnosis and specific treatment.

**Key words:** elderly, voice, presbyphonia.

## Oral Presentations

### Speech, Language and Hearing Sciences

#### 6407. Voice quality and auditory processing in individuals with and without musical practice

Karla Barbosa Guarda Paoliello, Mara Behlau, Liliane Desgualdo Pereira  
UNIFESP

**Introduction:** The relationship between voice and auditory processing is complex and has aroused greater scientific interest in the last decades.

**Objectives:** To verify the vocal quality and auditory processing in individuals with and without musical practice.

**Methods:** 136 individuals divided into: G1 = singers (G1.1 = instrumentalist singers and G1.2 = singers only), G2 = instrumentalists and G3 = control. Auditory perceptual analysis was done and self-assessment of a possible voice problem through the VoiSS. The auditory processing battery was composed of: PFT, RGDT, SSW, Speech in Noise and SSI. The correlation between voice and auditory abilities was studied.

**Results:** G1 and women reported more vocal symptoms in the VoiSS. The majority of individuals in all the groups studied did not present vocal deviation, which when it occurred was of a discrete degree. There was no statistically significant association between the various APA levels and the sexes evaluated. The G1.1 subgroup showed better temporal processing. Only negligible strength correlations were found between the vocal quality and auditory processing.

**Conclusion:** The vocal quality of musicians and non-musicians correlated with their auditory processing, although with negligible strength. Musicians, mainly instrumental singers, demonstrated a better auditory ability of temporal ordering, suggesting that the study and musical experience can be responsible for this performance.

**Key words:** Voice, Vocal Quality, Self-Assessment, Auditory Perception, Music.

#### 6415. Effectiveness of online videos about vocal health for professional voice users

Camila Oliveira e Souza, Lidia Teles

Faculdade de Odontologia de Bauru – FOB, Universidade de São Paulo, São Paulo, SP, BR

**Purpose:** investigate if online videos about vocal health can improve teacher's professional performance and life quality.

**Methods:** Thematic educational videos were made available to teachers in virtual platform. The videos were separated in three main categories: "Discovering the secrets of voice and speech", "Vocal Health" and "Taking Care of the Professional Voice", which one being 4, 13 and 12 minutes long, respectively. Twenty-eight teachers from five schools of the city of Bauru, São Paulo, participated in the research, answering the Screening Index for Voice Disorder (SIVD) and Vocal Activity and Participation Profile (VAPP) protocols before and after participating the audiovisual educational program.

**Results:** according to the SIVD, there was a significant reduction ( $P<0,05$ ) of the number of teachers with dysphonia and in the number of vocal and laryngeal symptoms of the participants after the educational videos. There was also a significant reduction ( $P<0,05$ ) of hoarseness, breaking voice, voice loss, low-pitched voice, dry cough, pain and strain when speaking. In the analysis of the VAPP a reduction of the score in all categories of the protocol happened. The differences were statistically significant for the categories of total score, effect on daily communication, SAL and SPR scores ( $P<0,05$ ).

**Conclusions:** the results lead to the hypothesis that vocal health information can be assimilated thru online videos, promoting the practice of vocal hygiene habits that lead to reductions of vocal complaints and vocal symptoms, also improving life quality of the teachers.

#### 6418. Evaluation of the risk of dysphagia in individuals with systemic sclerosis

Brenda Carla Lima Araujo, Silvia Elaine Zuim de Moraes Baldrighi, Marcela Macedo Oliveira, Beatriz Barros Santos Trindade, Valéria Ferreira da Silva  
Universidade Federal de Sergipe

Systemic sclerosis is a rare chronic disease, of unknown etiology and pathogenesis, characterized by an autoimmune process,

originated from the accumulation of collagen in the skin. It compromises the gastrointestinal tract and, consequently, the organs responsible for performing the deglutition function. Deglutition is the act of swallowing that involves structures of the oral cavity, pharynx, esophagus and the larynx. Interruptions in the swallowing process are called dysphagia, and the individuals with systemic sclerosis may present this difficulty.

**Objective:** To characterize the deglutition of individuals with systemic sclerosis, from the Rheumatology ambulatory clinic of the University Hospital of the Federal University of Sergipe.

**Method:** Clinical, observational and exploratory study. Eight individuals participated, of which, seven were female and one was male, aged between 27 and 64 years old (average age of 44 years old). The data collection was performed, individually, in a single moment, from August to September 2015. The instrument of self-assessment of the risk of dysphagia and the Eating Assessment Tool (EAT-10®) were, first, applied and, later, part of the clinical and functional evaluation of deglutition was performed (PADOVANI et al., 2007). The paste, liquid and solid consistencies were used.

**Results:** There were altered aspects in the deglutition function in the individuals studied, besides the presence of risk of dysphagia, through the instrument used.

**Conclusion:** The study indicated risk for dysphagia in individuals with systemic sclerosis, besides the presence of deglutition changes in the oral and pharyngeal phases, mainly for liquid and solid consistencies.

**Key words:** Scleroderma; Clinical Diagnosis; Deglutition Disorders.

#### 6419. 3D High-speed kymography in healthy individuals

Monike Tsutsumi, Arlindo Neto Montagnoli, Maria Eugenia Dajer, Regina Aparecida Pimenta, Adriana Hachiya, Domingos Hiroshi Tsuji  
Universidade de São Paulo, São Paulo, SP, BR

**Introduction:** The use of more advanced resources in the diagnosis of laryngeal pathologies such as high-speed videolaryngoscopy has evidenced the need for development of better computational tools that help to visualize and analyze data from video sources.

**Objective:** In this context, we present the 3D high-speed kymography, a novel tool that helps to visualize information from laryngeal images in three dimensions, namely, time, amplitude and space. This tool has been applied to analyze laryngeal images of healthy individuals.

**Method:** to check the benefits of our tool, in this study we analyzed data from the vocal fold amplitude by looking into the differences in color gradient which shows the variation in vocal fold motion over time. Furthermore, we also analyzed the space between vocal fold commissures that cannot be analyzed by conventional High-Speed Kymography. In the study, 45 laryngeal images (26 female and 19 male, aging 17-58 years old) of healthy individuals were analyzed using 3D high-speed kymography.

**Results:** Considering visual qualitative analysis provided by our tool it was possible to observe characteristics such as vocal fold shape, amplitude and glottic closure that cannot be seen by any other Kymography techniques available to date. In addition, 3D high-speed kymography allowed the analysis of each vocal fold separately and analysis of patterns at different locations of the vocal fold, in addition to the median line.

**Conclusion:** 3D High-speed kymography is a novel and promising technique in the analysis of laryngeal images, allowing the extraction of important qualitative parameters from laryngeal images.

#### 6422. Auditory monitoring in children with risk indicator for hearing loss

Giovana Quintana Pires Felden, Dayane Domeneghini Didoné, Priscila Sleifer, Eri Sandra Gomes, Susana Kunzler Etcheverria, Maristela Cavalheiro Tamborineguy França, Letícia Wolff Garcez  
Universidade Federal do Rio Grande do Sul

**Introduction:** Infants who need hospitalization in neonatal intensive care units could present risk indicators for hearing loss, and audiological monitoring in this population is necessary. The

Automated Auditory Brainstem Response is the recommended assessment for this population.

**Objective:** Describe the results of Automated Auditory Brainstem Response during the auditory monitoring in infants of intensive care units.

**Methods:** Cohort study, conducted through information from a pre-existing database of a public hospital. This research was approved by the Research Ethics Committee under protocol 1.571.131. The sample consisted of 182 newborns who needed hospitalization in neonatal intensive care unit. The Automated Auditory Brainstem Response was performed in both ears and the electrodes were fixed at the vertex, C7 vertebra and zygomatic. The impedance was maintained below six Kohms and the intensity was 35dBHL, with click stimulus. The infant who "passed" bilaterally was referred for auditory monitoring. In cases of uni or bilateral "failure", the retest was conducted. If the infant failed a second time, they were referred for diagnosis.

**Results:** Of the 182 babies, 24 failed in Automated Auditory Brainstem. In retest only 19 attended the test. Of these, 11 passed and eight failed. For auditory diagnostic evaluation, six attended, being that four had a normal result and one presented a suggestive result of retrocochlear alteration.

**Conclusion:** The audiological monitoring allowed the identification of a case suggestive of auditory neuropathy spectrum disorder, emphasizing the importance of periodic auditory assessment in children with high risk for hearing loss.

**Key words:** hearing; premature infants; Neonatal Screening.

#### 6437. Performance of acoustic analysis measurements in the evaluation of patients with different laryngeal diagnoses

Leonardo Wanderley Lopes, Layssa Batista Simões, Vinicius Jefferson Dias Vieira  
Universidade Federal da Paraíba

**Introduction:** The acoustic analysis gained prominence in the vocal evaluation because it was considered integrative of the physiological and auditory levels, allowing to quantify the vocal alteration and to infer the functioning of the larynx.

**Objective:** To investigate the accuracy of acoustic measures in discriminating between patients with different laryngeal diagnoses.

**Method:** A total of 279 female patients participated. Acoustic measures of the mean and standard deviation values of the fundamental frequency, jitter, shimmer, and glottal to noise excitation were extracted from the emission of the vowel /É/.

**Results:** Isolated acoustic measures do not demonstrate adequate performance in discriminating patients with and without laryngeal disorder. The combination improved the ability to classify patients with and without laryngeal disorders. In isolation, the standard deviation of the fundamental frequency and glottal to noise excitation presented acceptable performance in discriminating individuals with different laryngeal diagnoses. The combination of acoustic measurements caused discrete improvement in performance of the classifier to discriminate healthy larynx vs. vocal polyp, healthy larynx vs. unilateral vocal fold paralysis, healthy larynx vs. vocal nodules, healthy larynx vs. sulcus vocalis, healthy larynx vs. voice disorder due to gastrosophageal reflux.

**Conclusion:** Isolated acoustic measures do not demonstrate adequate performance in discriminating patients with and without laryngeal disorders. Combined acoustic measures present an acceptable capacity to discriminate between the presence and absence of laryngeal disorders and to differentiate several laryngeal diagnoses.

**Key words:** Voice; Voice disorder; Accuracy; Larynx; Acoustic analysis.

#### 6440. Recurrence quantification measurements: new

#### possibility of analysis of dysphonic and non-dysphonic voices

Leonardo Wanderley Lopes, Mara Behlau, Vinicius Jefferson Dias Vieira  
Universidade Federal de São Paulo

**Introduction:** Recurrence quantification analysis is a nonlinear dynamic analysis technique that allows the extraction

of non-stationary time series characteristics. Initial studies with healthy and altered larynx have demonstrated that measures of recurrence quantification are promising for vocal signal evaluation.

**Objective:** To analyze accuracy of recurrence quantification measurements for discriminating individuals with and without voice disorders.

**Method:** A total of 541 recorded sustained /ε/, and undergone to visual laryngeal examination. The overall deviation of each voice sample was determined in a 100-point visual scale. 52 normal individuals samples (normal larynx and reduced overall deviation of less than 35.5points) and 489 dysphonic subjects samples (structural or functional changes and higher vocal deviation of more than 35.6 points) were submitted to a 15 recurrence quantification measurements extraction. Quadratic discriminant analysis and accuracy, sensitivity and specificity of performance measures were used to investigate discriminatory power of recurrence quantification measurements, as well as cross-validation of random signals' combination with and without disturbance.

**Results:** Single measurements, such as Shannon entropy, averaged length of diagonal line and transitivity had only acceptable performance ratings of  $\geq 70\%$  to discriminate between individuals with and without voice disorders. Combined measurements achieved good performance. The combination of eight measurements produced the highest accuracy of 83.27%.

**Conclusions:** Isolated recurrence quantification measurements showed acceptable performance of  $\geq 70\%$  in classifying individuals with and without voice disorders. Combination of recurrence quantification measurements showed improved discrimination between study groups, with good performance and higher sensitivity and specificity.

**Key words:** voice, accuracy, acoustics, voice disorders.

#### 6441. Validation of a set of recurrence quantification measurements in discrimination of normal and deviated synthesized voices

Leonardo Wanderley Lopes, Mara Behlau  
Universidade Federal de São Paulo

**Introduction:** Recurrence quantification measurements demonstrated that are promising for vocal signal evaluation. However, to validate these measures it is necessary to analyze signals in controlled situations, as with the synthesized voices.

**Objective:** to identify the set of recurrence quantification measurements with greater accuracy to classify normal and deviant synthesized vocal signals.

**Method:** 871 synthesized /É/ vowel samples of both genders, with deviations of roughness, breathiness, and tension were submitted to perceptual analysis. The severity of vocal deviation using a 100-point scale was identified. For acoustic analysis, fifteen recurrence quantification measurements were extracted.

**Results:** From the adjusted logistic regression model, six recurrence quantification measurements explained the presence / absence of vocal deviation in the signals studied, with high values of accuracy (0.95), sensitivity (0.95) and specificity (0.96), and an area under the curve of 0.96. The values of the odds ratios showed that the increase in the measures of mean lengths of the diagonal lines, laminarity and transitivity decreases the chance of vocal deviation, whereas the increase of the values of the embedding dimension, determinism and averaged length of the vertical structures increases the possibility of vocal deviation. The model adequacy measure (pseudo-R<sup>2</sup>) was 0.63, indicating an excellent performance to explain the presence / absence of vocal deviation.

**Conclusions:** The set of recurrence quantification measurements related to the embedding dimension, determinism, averaged length of diagonal lines, laminarity, average length of vertical structures and transitivity present excellent performance in the classification of normal and deviant synthesized signals.

**Key words:** voice, acoustics, synthesized voices.

#### 6442. Applications as a therapeutic resource in the development of auditory abilities

Nátila Romano, Karolina Pessote Sideri  
Universidade Estadual de Campinas

**Introduction:** Technology has been a great ally in communication, learning and rehabilitation. Electronic games and applications can be considered tools that stimulate the interest of users, specially kids, promoting greater adherence and allowing to the therapist new resources to measure patient performance.

**Objective:** To find free applications to Android and/or iOS systems that can be resources to a therapeutic approach in developing auditory abilities.

**Method:** A systematic search for free applications at online stores "Play Store" and "Apple Store" in april, 2017, by two researchers, using specific

**Key words:** "fonoaudiologia", "audição", "sons" and "treino". The applications were downloaded and tested at clinical practice to select those that could be used in therapy.

**Results:** It was found 13 applications. Five are available in both platforms, five only for iOS systems and three only for Android. Four applications are "lite version", which means a limited use. The auditory processing abilities addressed in the selected applications are: attention (n=11), memory of nonverbal sounds(n=9), temporal ordering (n=5), frequency patterns (n=5), memory of verbal sounds (n=3), duration patterns (n=3), auditory figure-ground to verbal sounds (n=3), auditory figure-ground to nonverbal sounds (n=2) and auditory closure (n=1).

**Conclusion:** There are a little amount of free applications that can be applied to help to develop auditory abilities, specially to auditory figure-ground and auditory closure. Future steps lands on formulate new free applications to stimulate auditory processing.

**Key words:** Speech, Language and Hearing Sciences; Auditory Processing; Development; Mobile Applications.

#### 6456. The speech ability in the telephone in children who have the cochlear implant in the sensitive period of auditory neuronal plasticity

Joice de Moura Silva, Natália Barreto Frederique Lopes, Kátia de Freitas Alvarenga, Adriane Lima Mortari Moret, Julia Speranza Zabeu  
Faculdade de Odontologia de Bauru - FOB USP

**Introduction:** The cochlear implant become possible the access of speech sounds and improve the oral communication skills.

**Objectives:** Correlate the auditory recognition of phonemes and words with the speech skill through the telephone of children who have the cochlear implant.

**Methods:** 20 children with six to twelve incomplete years old who have a cochlear implant participated in this study. These children had the surgery until 42 months.

**Results:** Children with better auditory categories and word and phonemes recognition skills had better performance in telephone test. The age at surgery did not have influence in auditory speech perception and in telephone test. 11 (55%) was able to maintain the dialogue through the telephone; one (5%) had difficult; four (20%) had accentuated difficult, and four (20%) was not able to maintain the conversation through the telephone. Three of four children that was not able to maintain the dialogue through the telephone had more than five years of use of cochlear implant. Three of 11 children who was able to maintain the dialogue had less than five years of use of cochlear implant.

**Conclusion:** Children who have better auditory performance have better performance in communication using the telephone, however, theses results are variable. The age at the surgery do not influence in these results and they possible are not relate with the period of use of cochlear implant, demonstrating the complex interaction between the aspects that determine the performance of the intervention these children.

**Key words:** Children. Cochlear Implant. Hearing. Speech perception.

**6465. New lists of monosyllables and disyllables in the evaluation of speech recognition in adults and the elderly**  
 Lidiéli Dalla Costa, Ana Valéria de Almeida Vaucher, Maristela Julio Costa, Tais Regina Hennig  
*Universidade Federal de Santa Maria*

**Introduction:** One of the most important measures in the basic audiological evaluation is the achievement of the Speech Recognition Percentage Index (SRPI). When hearing loss is associated with aging, different factors may influence the perception of speech in elderly.

**Objectives:** To analyze and compare the speech recognition of adults and elderly with sensorineural hearing loss using new lists of monosyllables and disyllables.

**Method:** Were evaluated 42 individuals, divided into Group 1 (21 adults aged from 19 to 64 years) and Group 2 (21 elderly aged from 65 to 79 years), presenting mild, moderate, moderately severe and severe sensorineural hearing loss, presenting SRPI inferior to 88% using monosyllables. The SRPI was investigated at the most comfortable listening level, through the New Lists of Monosyllables (Vaucher & Costa, 2016) and Dissyllables (Vaucher & Costa, in press), consisting of two lists with 25 monosyllables (L1 and L2) and five lists with 25 disyllables (LD-A, LD-B, LD-C, LD-D, LD-E). Data were analyzed by ear.

**Results:** The mean values of SRPI for the different degrees of loss, respectively, were: Group 1: 64.66%, 65.71%, 64% and 43.5% using monosyllables and 82.66%, 88%, 82% and 74.5% using disyllables; Group 2: 60%, 60.95%, 56.4% and 4% with monosyllables and 80%, 84.19%, 75.6% and 22% with disyllables.

**Conclusion:** There was improvement in speech recognition with the use of the disyllables compared to the monosyllables in both groups. The elderly group presented inferior performance compared to the group of adults in speech recognition.

**Key words:** Hearing Loss; Speech recognition; Adult; Elderly.

**6470. The influence of emotional and balance aspects in the elderly with hearing loss**

Amanda Monteiro Magrini, Teresa Maria Momensohn dos Santos  
*Pontifícia Universidade Católica de São Paulo*

**Introduction:** The implications of hearing loss on the posture and the balance of the elderly are increasingly discussed, since balance difficulties and emotional issues are constant complaints in this population.

**Objective:** to study the influence of depression and self-evaluation of the effects of hearing loss on balance in the elderly.

**Method:** Research approved by the Ethics Committee, nº43831015.1.0000.5482, performed with 150 patients in the city of Belém-PA. The following instruments were used: confidence level in the activity-specific balance (AUC), geriatric depression scale (GDS), audiological examination of audiometric tests, static and dynamic balance tests (Romberg, Romberg Barre and Unterberg with open eyes and closed), Time UP and GO and the reduced version of the Handicap auditory questionnaire for the elderly (HHIE-S).

**Results:** it was found that the lower the confidence level (lower score on the ABC scale), the higher the percentage of subjects who underwent the test up to time and go beyond 20 seconds ( $p < 0.001$ ). The same is observed for the presence of depression ( $p = 0.011$ ). The Romberg Barre test with closed eyes was the only one that showed a statistically significant association with the ABC score. In HHIE-S it was observed a statistically significant difference between presenting or not depression ( $p < 0.0001$ ).

**Conclusion:** In the elderly with hearing loss, depression is much more related to the findings on the ABC scale than to the performance of these subjects in the tests of static and dynamic balance.

**Key words:** Depression; Postural balance; Aged; Hearing loss.

**6476. Cortical auditory evoked potentials with Simple (Tone Burst) and Complex (Speech) stimuli in children with cochlear implant**

Kelly Vasconcelos Chaves Martins, Daniela Gil  
*Universidade Federal de São Paulo - Unifesp*

**Introduction:** The registry of the component P1 of the cortical auditory evoked potential has been widely used to analyze the behavior of auditory pathways in response to cochlear implant stimulation.

**Objective:** To determine the influence of aural rehabilitation in the parameters of latency and amplitude of P1 cortical auditory evoked potential component elicited by simple (tone burst) and complex stimuli (speech) in children with cochlear implants.

**Method:** The study included six individuals of both genders aged 5 to 10 years old who have been cochlear implant users for at least 12 months, and who attended an aural rehabilitation therapy approach. Participants were submitted to the cortical auditory evoked potential at the beginning of the study and after 3 months of aural rehabilitation. To elicit the responses, tone burst and speech were used and presented in free field at 70 dB HL. The results were statistically analyzed and compared.

**Results:** There was no significant difference between the stimuli of the cortical auditory evoked potential for latency and amplitude of P1. There was a statistically significant difference in P1 latency between the evaluations for both stimuli, with reduction of the latency in the second evaluation after 3 months of auditory rehabilitation. There was no statistically significant difference regarding the amplitude of P1 under the two types of stimuli or in the two evaluations.

**Conclusion:** A decrease in latency of P1 component elicited by both simple and complex stimuli was observed within a three-month interval in children with cochlear implant undergoing aural rehabilitation.

**6506. Contribution of myofunctional therapy in adult patient treatment with obstructive sleep apnea: a systematic review**

Alessandra Bastos de Sousa, Mariana Pinheiro Brendim  
*Universidade Federal do Rio de Janeiro*

**Introduction:** Obstructive sleep apnea is a disorder characterized by recurrent apneas during sleep due to upper airway obstruction. Speech therapy is a recent treatment option, with a significant improvement in symptoms and improvements in the quality of life in a short period.

**Objectives:** to present a systematic review about speech therapy in adult patient with obstructive sleep apnea in order to identify the contribution to the treatment of this condition using myofunctional therapy.

**Data Synthesis:** After searching the databases BVS, PubMed, Web of Science and Scopus and applying inclusion and exclusion criteria, two reviewers analyzed independently 12 articles by evidence classification and through Jadad scale. Four studies of randomized clinical trial type, five observational studies, one case series and two case reports were included. Only randomized clinical trials scored highest on the Jadad scale.

**Conclusion:** speech therapy contributes to the treatment of obstructive sleep apnea, being treatment option of this syndrome, although this finding is based on only four randomized clinical trials. All comparisons made in the studies took place in a period after two or three months with speech therapy, they are not sufficient to support an outcome in the long-term. The literature also needs high evidence studies on this topic. It is necessary to standardize the method used for evaluation and treatment of this population by speech therapy and randomized clinical trials to investigate the use of speech therapy as a treatment option after long periods of follow-up.

**Key words:** Sleep Apnea, Obstructive; Myofunctional Therapy; speech therapy; review.

### 6507. Hearing profile and lifestyle in entering military police career officers

Claudia Giglio de Oliveira Gonçalves, Tangriane Hainiski Ramos Melek, Adriana Betes Heupa, Isolina Patricia Ribeiro Tavares  
Universidade Tuiuti do Paraná

**Introduction:** Impact noise from firearms can evidently cause more severe damage to hearing than continuous noise. Among military police officers, the presence of negative lifestyle events can increase the risk of hearing loss.

**Objective:** To analyse the auditory profile of military police entering the career officers.

**Method:** This is a sectional study with 15 Military students, all male, averaging 25.2 years and average time of 3.73 year service. They were submitted to measurement of vital signs, anthropometric measurements and hearing assessment by audiometry and otoacoustic emissions transient tests. A questionnaire was applied about physical activity level, smoking habit and family history.

**Results:** The body mass index in the normal range was found in fourteen (93.33%) subject; the active physical activity level was found in fourteen (93.33%) students; none of them declared himself a smoker, two (13.34%) subject declared hypertension, thirteen (86.66) did not present cardiac risk factors, four (26.66%) reported a family history of circulatory system problems; 3 (20.0%) presented sensorineural hearing loss, and the otoacoustic emission test showed absence of responses in five (33.3%) subject.

**Conclusion:** The assessed risk factors such as hypertension, smoker, presented low occurrence between the subjects, however, from the analysis of the audiological data it was possible to verify the military police are a population that present risks to develop hearing loss from exposure to noise of impact even in the initial years of profession. Thus, it is necessary to draw action plans aiming at the preservation of those professional hearing.

### 6511. Quality of life in patients with dizziness after stroke

Bianca Nunes Pimentel, Valdete Alves Valentins dos Santos Filha  
Universidade Federal de Santa Maria

**Introduction:** Stroke is a vascular event that can bring about organic and functional changes, affecting negatively the quality of life. The difficulty in maintaining the postural balance is one of the main sequels.

**Objective:** To evaluate the quality of life of patients with dizziness after stroke.

**Methods:** Research approved by the Research Ethics Committee under CAAE number 16728013.0.0000.5346. In this study, 38 subjects, 21 (55.26%) men and 17 (44.74%) women, with complaint of dizziness after stroke attended at the Otoneurology outpatient clinic of a university hospital. The participants were submitted to anamnesis and the abbreviated version of the WHO Quality of Life-Bref Questionnaire, composed of 26 questions, categorized by physical, psychic, environmental and social domains; generating a quality of life score.

**Results:** The mean age of participants was 63.53 years (42-85 years). The type of prevalent dizziness was imbalance (36 - 72%) and type of ischemic stroke (30 - 78.95%). The averages for the domains were: physical 56.20, psychic 52.52, social 57.89, environmental 53.78 and overall score 54.94. There was a relationship between the female sex and the psychic ( $p = 0.01$ ) and social domains ( $p = 0.03$ ); age and physical domain ( $p = 0.002$ ); dizziness type imbalance with social domain ( $p < 0.001$ ) and overall score ( $p = 0.004$ ); ischemic stroke with social domain ( $p = 0.03$ ).

**Conclusions:** In general, the averages in all domains were low, with lower quality of life in women, older individuals with imbalance type dizziness and ischemic stroke.

**Key words:** Stroke; Postural balance; Quality of life.

### 6520. Nasalance scores for brazilian portuguese consonants

Caroline Rodrigues Portalete, Marcia Keske-Soares, Tainá Rossato Benfica, Karina Carlesso Pagliarin  
Universidade Federal de Santa Maria

**Introduction:** To complement the perceptual-auditory judgment of nasality, it is possible to execute quantitative instrumental evaluations, such as nasometry. Studies documented the oronasal balance in cleft lip and palate patients, neuromotor diseases and auditory alterations. However, it is still necessary to characterize the nasalance in typical speech.

**Objective:** This study aims to analyze instrumentally the speech production of typical speakers adults through nasometric assessment and to establish nasalance scores for Brazilian Portuguese consonants in typical speech.

**Methods:** Nasalance scores of 19 preexisting passages (PRAIN) were collected from 33 typical speakers adults of Brazilian Portuguese through nasometric assessment using Nasometerâ, c II 6400.

**Results:** Across all nasalance passages, nasal consonants (/m/, /n/ and / Ž/), as like as voiced plosives and fricatives (/b/, /d/, /g/, /v/, /z/ and / ř/) showed a higher percentage than liquids (/l/, /ɛ̄/ Œ/, /r/ and /R/) and voiceless plosives and fricatives (/p/, /t/, /k/, /f/, /s/, / /). The mean nasalance scores for nasal consonants was 67%, for voiced plosives was 42.67%, for voiced fricatives was 20.3%, for liquids was 13.25%, for voiceless fricatives was 11% and for voiceless plosives was 9.3%. Regarding the nasalance difference between gender, women presented the highest scores in most of the phonemes.

**Conclusion:** Nasalance scores for Brazilian Portuguese Consonants showed variation not only to the manner of articulation, but also to the sonority trait, which were higher in voiced phonemes and nasals. These results modify the stimuli' selection criteria for evaluation and therapy of velopharyngeal dysfunctions.

**Key words:** nasalance; nasometry; assessment; speech.

### 6521. Clinical features of tinnitus in subjects with and without associated hearing loss

Maria Isabel Ramos do Amaral, Amanda Bozza, Flavio Van Ryn Junior, Cristiana Magni, Jaíse Thaynara Mores  
Universidade Estadual de Campinas-SP / Universidade Estadual do Centro-Oeste-PR

**Introduction:** Although tinnitus and hearing loss are often concomitant symptoms, is it known that it may also occur in the absence of peripheral hearing loss in 5 to 10% of cases.

**Objective:** to compare clinical characteristics of tinnitus in subjects with and without hearing loss.

**Methods:** 31 individuals with tinnitus were divided into two groups: Group I (G1)-15 subjects with peripheral hearing loss and Group II (GII): 16 normal hearing individuals. After a retrospective analysis of the charts of patients attended at the Institution, participants were invited and performed the following procedures: anamnesis, basic audiological and psychoacoustic evaluation of tinnitus (loudness, pitch, minimum masking level and threshold of discomfort for pure tone and speech).

**Results:** G1 presented a mean age above GII (\* $p < 0.001$ ), and there was gender homogeneity between groups ( $p=0.853$ ). In both groups, tinnitus was most unilateral (left ear), a wheezing type in G1 (\* $p= 0.002$ ) and whistle in G1 ( $p = 0.783$ ). Silence/night was the aggravating factor of the tinnitus most cited by both groups and with a highest occurrence in G1 ( $p < 0.005$ ), but exposure to noise and food triggers were significantly referred only by GII (\* $p < 0.005$ ) In the psychoacoustic evaluation, significant differences were observed between groups regarding loudness (\* $p=0.013$ ) and the minimum level of masking (\* $p=0.001$ ).

**Conclusion:** Differences were evidenced in relation to the aggravating factors of tinnitus, as well as results of the psychoacoustic evaluation. The cochlear damage may justify the lowest minimum level of masking in subjects with tinnitus and associated hearing loss.

## **6522. Dysphagia and speech language therapy: knowledge of Hospital Multidisciplinary Team**

Juliana Conceição Nogueira, Lenice de Fatima da Silva Munhoz  
IEAA - Instituto de Estudos Avançados da Audiôo

**Introduction:** Studies about dysphagia have increased in the last years. However, studies that verify the multidisciplinary team's knowledge about speech-language therapy practice in hospital setting and the recognition that this professional is an essential team member are scarce.

**Objective:** To describe the multidisciplinary team's knowledge about dysphagia and speech-language therapy in this area in a hospital without this professional.

**Methods:** Cross-sectional observational study carried out with 31 health professionals. All participants answered a multiple choice questionnaire developed specifically for this study, containing information regarding dysphagia's concept and complications, clinical signs and symptoms, risk diseases and speech-language therapy practice this area. Descriptive statistical analysis was performed in the obtained data.

**Results:** Most professionals have never worked with speech language pathologist (87%) and answered that they knew what is dysphagia (87%). However, the average of correct answers for the identification of clinical signs and symptoms (Mean = 3,1 ± 1,3; total = 7), risk diseases (Mean = 2,1 ± 1,2; total = 7) and complications (Mean = 2,1 ± 1; total = 4) of dysphagia were low. They recognized that the speech language pathologist should be a team member (94%) responsible for dysphagia treatment (55%).

**Conclusion:** Health professionals who do not know speech-language therapy practice have difficulty to identify clinical signs and symptoms, risk diseases and possible complications of dysphagia in hospital setting. They recognize the need to have this professional as a team member responsible for dysphagia management and treatment.

**Key words:** deglutition disorders; patient care team; speech, language and hearing sciences.

## **6529. Neonatal hearing screening results and delivery means in the Public Maternal and Child Hospital in the South of Brazil**

Luíza Silva Vernier, Daniela Centenaro Levandowski, Tatiana de Carvalho Paniz, Claudia Fernandes Costa Zanini, Karoline Lemos Schneider

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** The Newborn Hearing Screening is recommended by the Brazilian health policies as a first step to hearing health program that must be performed preferentially in the first days of life(24 to 48 hours). Studies show that there is a vernix caseous prominence in newborns who are delivered through cesarean birth, but it's variable.

**Objective:** To verify associations between birth delivery means and Newborn Hearing Screening results, performed in different periods of the baby's first days of life.

**Methods:** Descriptive, observational and prospective study. 462 newborns with gestational age ≥37 weeks, without risk indicators for hearing loss. The evaluation was performed as the place's routine in two moments: 24 and 36 hours of life. In case if "failure" in the later test, immediate test was performed, with a previous facilitating auricular maneuver. Statistical analysis were performed SPSS program.

**Results:** 304 (65,80%) were born through normal birth. Babies' mothers characteristics: incomplete fundamental education (49,35%), were single (63,63%), didn't plan pregnancy (56,92%). Statistical significance was found in babies who succeeded in the first 24 hours Newborn Hearing Screening evaluation ( $p=0,001$  normal birth; $p=0,002$  cesarean sections), considering this prevalence to be higher according to a longer period of life. There was no significant statistical difference when comparing Newborn Hearing Screening results considering babies' delivery means and different life times.

**Conclusions:** The full term babies born from cesarean section didn't present disadvantage in Newborn Hearing Screening

results. The evaluation must be performed after the baby completes 24 hours of life, to decrease false negative rates.

**Key words:** Neonatal Screening; Hearing; Natural Childbirth; Cesarean Section; Maternal-Child Health Services; Public Hospitals.

## **6540. Management of allergic patient: oromyofunctional approach**

Taísa Giannecchini Gonçalves de Souza  
Faculdades Metropolitanas Unidas

**Introduction:** In the speech-language clinic, respiratory disorders are frequent and involve a large number of school-aged patients. Oromyofunctional therapy is constantly preparing to deal with the consequences of allergic crises, seeking the appropriateness of breathing and other oral functions. The objective of the present study was to demonstrate the effectiveness of speech and language therapy in a case of allergic patients, as well as the importance of early intervention.

**Method:** This study was submitted to the Research Ethics Committee, the person responsible signed the Free and Informed Consent Form and the child signed the Term of Assent. A bibliographic survey of the national scientific literature was published in PubMed, with articles published between 2005 and 2017, on speech-language pathology in this area, in order to prepare the appropriate therapy. For the patient, the diagnosis of Infections of the upper airways defined the prognosis, being considered a limit imposed by the respiratory pathology and the discussion with the multidisciplinary team defined the conduct to be taken by priorities: treatment with the otorhinolaryngologist, speech pathologist and physiotherapist. The 5-year-old child with diagnosis of allergic rhinitis and severe myofunctional orofacial and cervical dysfunction was submitted to 12 oromyofunctional work sessions with emphasis on nasal aeration work among allergic crises in order to achieve improvement in patient responsiveness treatment. As results, the patient presented increased immunity and longer interval between seizures. Stimulation of nasal breathing between crises helps prevent inflammation secondary to allergies, improving the patient's prognosis.

## **6542. Exposure to noise: hearing and health profiles for miners**

Tangriane Hainiski Ramos Melek, Claudia Giglio de Oliveira Gonçalves  
Universidade Tuiuti do Paraná

**Introduction:** Mineral extraction is part of the primary/secondary sectors of the economy. It is related to mine exploration and ore withdrawal. Brazil has 3,370 mines scattered around the country. This activity has been shown to be challenging, since the risks to which the miners are exposed have remained the same throughout history.

**Objective:** To quantify the contribution of noise to the general and auditory health of miners.

**Methods:** This was a quantitative study involving 125 male miners with an average age of 38, ranging from 21 to 56 years of age. The average time working in the area was 8 years, ranging from 0.5 to 26 years of work. The subjects were asked to answer a questionnaire about their health. The results of medical records included: audiometry and other health problems, as well as the levels of noise exposure contained in the company's Risk Management Program report. This research was approved by the Ethics Committee n. 1,224,111.

**Results:** 61% (77) of miners presented an altered audiogram. 40% (51) were exposed to noise levels above 80dB. 81% (102) present health problems such as hypertension, diabetes, and cardiovascular problems. 53% (67) have a good perception of their health conditions.

**Conclusion:** Environmental conditions expose miners to risks. There is no doubt that their being exposed contributes to triggering several health problems. Auditory impairment is one of them, which can be triggered not only by exposure to noise, but also by exposure to carbon dioxide, etc.

**Key words:** exposure to risks, miner, noise, hearing.

**6548. Biofeedback therapy in oropharyngeal dysphagia**

Daniele Fontes Ferreira Bernardes, Maysa Tibério Ubrig  
*Fono Santé - Consultório de Fonoaudiologia*

**Introduction:** The electromyographic biofeedback is a technique that allows measuring the altered physiological activity which is not observable by the patient. It is a feedback therapy that shows physiological muscle events through an electronic device in order to promote learning. It is a visual resource that enables the patient to consciously monitor and alter swallowing behavior.

**Objective:** to describe the biofeedback training in oropharyngeal dysphagia.

**Methods:** the equipment used in the biofeedback therapy is the New MiotoFace Miotec. A surface electrode is placed on the supra-hyoid area. The maximum voluntary contraction is registered using the surface electromyographic evaluation while the patient performs a saliva swallow with maximum effort. In the beginning of the treatment, 50% of this value is used. The procedure is also used with liquid, pasty and solid consistencies.

**Results:** the training involves increasing degrees of difficulty. The patient swallows facing the computer when the duration X amplitude range is presented. The swallowing is observed on the computer screen through a visual and auditory signal. If the patient succeeds in the first task, the duration range is decreased in 10 seconds and the amplitude is increased. At each success, the difficulty degree is increased. If the patient fails, the task difficulty is decreased to the previous level.

**Conclusion:** The biofeedback training improves the precision and motor control of swallowing in oropharyngeal dysphagia. It makes the speech therapy more motivating for the patient once he can observe the progress graphically and numerically in real time on the computer screen.

**6555. Benefits of LaxVox in different areas of the speech and language clinic**

Táisa Giannecchini Gonçalves de Souza, Maria Adriana Bussamara Merlo, Maria Christina Bussamara Casmerides  
*Faculdades Metropolitanas Unidas - SP*

**Introduction:** new tools are constantly incorporated into speech-language clinical work. In the area of Voice, studies that point out the use and effects of the LaxVox tube are well-known. The LaxVox Technique performs semi-fluid vocal tract exercises and consists of phonation in a silicone tube with one end immersed in water. It has been used in the rehabilitation of dysphonic patients and in vocal preparation of voice professionals. However, there are no reports of its use in other areas of speech therapy.

**Objective:** The objective of this study was to study the pathologies that may also benefit from the technique, namely oromotor functional alterations, cases of snoring and sleep apnea, dysphagia and speech disorders, where lips, tongue, cheeks and soft palate muscles are also compromised, and show new possibilities of adjustments with the technique of LaxVox, in reduced time of stimulation.

**Methods:** Bibliographic review in the PubMed databases, from 2000 to 2017.

**Results:** The results indicated positive signs in the use of the technique for soft palate contraction, activation of the buccinator mechanism, increase of lip and soft palate strength, improvement of respiratory function and increase in the permeability of the areas.

**Conclusion:** Among the effects produced by the technique, such as vocal tract enlargement, reduction of the collision force between the vocal folds, production of massage effect in the soft tissues of the mouth and larynx and activation of the lower and lower abdominal muscles, benefits on the air way muscles were pointed also, decreasing the pathological symptoms observed.

**6564. Description of the recommendation of, and adaptation process for individuals wearing hearing aids in a Public Service**

Ingrid Kolb Mazzarotto, Claudia Giglio de Oliveira Gonçalves, Claudia Andriguetto Maoski Moretti, Milena Raquel Iantas, Cíntia Gonçalves de Lima Bellia  
*Universidade Tuiuti do Paraná*

**Introduction:** The process of recommendation, adaptation, and verification of hearing aids is part of the actions targeted at the deaf; it is provided for under the National Policy on Hearing Health Care.

**Objective:** To characterize the recommendation and adaptation process for hearing aid use through a service of medium complexity in Curitiba.

**Method:** A cross-sectional study, with 110 participants. All participants were submitted to the wearing hearing aids for a period of 1 year. Only adult participants were included, totaling 54 bilateral wearers and 11 unilateral wearers. The data were collected on the first visit after the starting hearing aid use. The study was carried out by applying a questionnaire that described the participants, the hearing aid, and the adaptation process.

**Results:** The participants' ages ranged from 25-86 years old, 50% of them were men. The average waiting time between recommendation and adaptation was 58 days. Most of the hearing aids were retroauricular(95%), with a half-shell mold(33%), acrylic mold material(40%), and Class A technolog (77%). The average time between starting use and the next visit was 73 days. The average time of the use of the aid weekly was 5-7 days in 64.5% of subjects. The most mentioned benefit was the improvement of social comprehension/interaction(61.5%) and the main complaint mentioned was related to regulation(21%).

**Conclusion:** The elderly were the people that most used the service. The time from the primary visit to the completion of the adaptation process was short.

**Key words:** hearing impairment, health programs, hearing aids, adults.

**6569. The perception of work teams and the sound intensity in the emergency rooms**

Adriana Bender Moreira de Lacerda, Jussara Marise Ribeiro Sampaio, Walderes Aparecida Filus  
*Universidade Tuiuti do Paraná*

**Introduction:** Teachers' vocal health and its relation to the work environment point to the existence of risk factors. In the classroom work, voice is one of the main resources as it is responsible for oral communication and for the interpersonal relationship in the process of didactic mediation, which justifies the investigation on university teachers' vocal health.

**Objective:** The study objectives to analyze teachers' perception on their voice-related quality of life.

**Methods:** The methodology comprised a self-applied questionnaire with ten questions related to the subjects' perception on their voice-related quality of life, according to the domains. Fifty teachers from a public university in Southern Brazil answered the questionnaire.

**Results:** Results show vocal complaints as well as significant gender differences. Most teachers do not feature any impact on their voice-related quality of life based on the mean scoring of socioemotional (93.50%) and physical domains, and on the total scoring (87.20%). However, correlations between teaching time length and the scoring of physical and total domains were observed.

**Conclusion:** It can be concluded that teaching activity may harm university teachers' voice-related quality of life, thus justifying the implementation of preventive voice-related actions.

**Key words:** dysphonia, worker's health, risk factors, voice, voice quality.

**6585. Fiberoptic endoscopic evaluation of swallowing in resistant hypertensive patients with obstructive sleep apnea**

Mariana Pinheiro Brendim, Elizabeth Silaid Muxfeldt, Thalyta Georgia Vieira Borges, Carla Rocha Muniz, Flavia Rodrigues Ferreira  
Universidade Federal do Rio de Janeiro

**Introduction:** Patients with obstructive sleep apnea may be affected by deglutition disorders. Fiberoptic endoscopic evaluation of swallowing is considered one of the gold standard exams for objective evaluation of oropharyngeal dysphagia.

**Objectives:** To describe swallowing abnormalities evidenced by fiberoptic endoscopic evaluation of swallowing and to evaluate the relationship between dysphagia with the clinical characteristics of resistant hypertensive patients with obstructive sleep apnea.

**Methods:** A cross-sectional study evaluated two swallows of 5 ml, 10 ml and 15 ml of liquid, nectar, honey and pudding of 20 participants (12 women). The evaluation of the exams was performed blindly by two speech therapists. The variables age, gender, weight, height, body mass index, cervical circumference, apnea-hypopnea index, smoking, apnea severity, symptom of dysphagia, and CPAP therapy were analyzed. The Mann-Whitney U test and Fisher's exact test were used for statistical analysis.

**Results:** 65.3% of the deglutition evaluated presented delayed swallow initiation; 44.1% stasis; 39.8% piecemeal deglutition; 24.6% penetration or aspiration; and 15.4% premature oral leakage. Regarding the severity scale of dysphagia, 25% of the participants presented mild to moderate dysphagia and 45% mild dysphagia. The Kappa concordance index ranged from 0.7 to 1.0. There was a tendency for the greater the apnea severity, the greater the frequency of dysphagia. There was a statistically significant difference in age between the group with dysphagia and the group without dysphagia ( $p=0.041$ ).

**Conclusion:** Resistant hypertensives with obstructive sleep apnea present abnormalities in oral phase and especially in pharyngeal phase of swallowing evidenced by fiberoptic endoscopic evaluation of swallowing.

**6618. Association between conductive hearing loss and communication of children with cleft lip and palate**

Pâmela Pacheco Aguiar, Maria Cristina de Almeida Freitas Cardoso, Lisiâne de Rosa Barbosa, Marcia Angelica Peter Maahs, Jennifer Alvares Trindade, Raiane de Moraes Pacheco, Renata Pereira Prates  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Children with cleft lip and palate often have recurrent otitis due to anatomical and functional changes in the auditory tube. The secretion present in the middle ear causes a fluctuation in the detection of the sounds and it generates a great difficulty in differentiating the sounds of speech, impairing the oral and written communication.

**Objective:** To explore the hearing loss and language of children with cleft lip and palate.

**Resumed report:** Case reports approved by ECR number 1900382 of three children between 2:8 and 5:11 years old, attended at the Extension Project of the Federal University of Health Sciences of Porto Alegre, in the outpatient clinics of Brazilian health system specialties at the Pediatric Hospital from Irmandade Santa Casa de Misericórdia de Porto Alegre Hospital Complex. All children presented conductive loss in isolated frequencies in both ears, of moderately-severe, moderate and minimal degrees; currently, present alterations in attention, compromising speech perception, hindering the process of language stimulation and rehabilitation.

**Conclusion:** Recurrent otitis in cases of cleft lip and palate causes difficulties in the discrimination of speech sounds, such difficulty in the cases of conductive hearing loss behind the impairment in language development, considering the age of speech acquisition in which it occurs. This impairment is identified with distortion in both phonetic and phonological speech. The importance

of a multidisciplinary approach in the identification and treatment of otitis and providing a better quality of life next to these cases is emphasized.

**Key words:** Hearing loss; Cleft lip and palate; Language

**6625. The presence of semivocalization of /r/ in coda by children in atypical language development**

Renata Pereira Prates, Iasmim Kasprczak, Amanda Faleiro, Amanda Lucas, Letícia Pacheco Ribas, Laura dos Santos Abon Zahr  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** The acquisition of the class of liquids in the Portuguese language, related to its articulatory and acoustic properties, is considered later. The phoneme /r/ is one of the last phonemes to be acquired, as it happens a greater difficulty in its production. As a consequence, repair strategies occur and in some cases these strategies persist at a higher age than the acquisition.

**Objective:** Investigate the presence of semivocalization in coda of the liquid /r/ by children in atypical language development.

**Methodology:** Data were analyzed statistically from 32 children, aged 5 to 8 years, 4 of each age group, with diagnosis of Phonological Disorder included in the VALDEF Database (CEP 995.344).

**Results:** The results demonstrate that the semivocalization was more present at the age of 5 years, in the female gender, in the final coda position, moderate degree of severity and level of schooling 2.

**Conclusion:** In this study was observed the frequency of the most prevalent semivocalization in the speech data of children with moderate degree of severity, which is also found in research results, according to GHISLENI et al. (2010). However, in relation to the position in the word, there was a disagreement of other studies, as in KESKE-SOARES et al. (2007). Further research in this area is suggested, in order to make greater contributions on the subject, as well as in speech-language practice.

**Key words:** Speech Sound Disorder; Child Language; Speech, Language and Hearing Sciences.

**6627. Benefits and satisfaction from the use of hearing aids: correlation with the educational level**

Camila Zander Neves, Liese Loureiro Weigert, Taís de Azevedo Picinini, Adriane Ribeiro Teixeira  
Universidade Federal do Rio Grande do Sul; Hospital de Clínicas de Porto Alegre

**Introduction:** Non-auditory factors may influence the adaptation of hearing aids (HAs).

**Objectives:** Verify the correlation between the HAs benefits and the scholarity. Adults and elderly of both genders, users of HAs were selected.

**Methods:** The study was approved by the Ethics Committee (protocol 1.760.868). All patients involved have answered anamnesis. For schooling the years of study were considered. The International Outcome Inventory for Hearing Aids (IOI-HA) questionnaire were applied to evaluated the efficacy of HAs rehabilitation. The questionnaire consists of seven items that target the following broad HAs outcome domains: use, benefit, residual limitation of activities, satisfaction, residual restriction of participation, impact on others and quality of life. A high score means more patient satisfaction.

**Results:** Forty-two patients, mostly elderly (64,3%) were evaluated. The factor 1 average score was  $17,6 \pm 2,0$  points and factor 2,  $12,7 \pm 2,2$  points. The total IOI-HA score was  $32,0 \pm 3,6$  points. There was no difference between both groups and the variables factor 1 ( $p=0,266$ ), factor 2 ( $p=0,412$ ) and total IOI-HA ( $p=0,815$ ). The median of years of study was 6 points (P25 e P75:4-11). The median for elderly was 5 points (P25 and P75:3-11) and for adults was 8 points (P25 e P75:5-11). There was no difference between both groups ( $p=0,121$ ). The schooling did not present significant correlation between the

values of total IOI-HA ( $r_s=-0.078$ ;  $p=0.622$ ) and factors 1 ( $r_s=-0.251$ ;  $p=0.108$ ) and 2 ( $r_s=0.007$ ;  $p=0.967$ ).

**Conclusion:** Schooling did not correlate with the satisfaction index related to the use of HAs.

**Key words:** Hearing aids; Hearing loss; Surveys and Questionnaires.

### 6633. Masking level difference and auditory brainstem response in normal hearing adults

Daniela Gil, Cyntia Barbosa Laureano Luiz, Joyce Miranda Santiago  
Universidade Federal de São Paulo

**Introduction:** The auditory structures of the brainstem are involved in the auditory ability of binaural interaction, which refers to the ability of the central auditory nervous system in processing disparate but complementary information presented to both ears. Therefore, this interaction contributes for sound localization and auditory figure-to-ground abilities.

**Objectives:** To investigate Masking Level Difference in normal hearing adults and its relation with electrophysiological assessments - Auditory Brainstem Response using clicks and speech stimuli.

**Methods:** Twenty female subjects between 18 and 30 years of age, normal hearing (tonal and speech audiometry within normal limits) and no complaints of Central Auditory Processing participated in the study. The subjects underwent acoustic immittance measurements, Tonal Masking Level Difference and Auditory Brainstem Response performed with click and speech stimuli.

**Results:** Masking Level Difference showed an average response of 10.70 dB and correlated positively with wave V of the Auditory Brainstem Response with click stimulus and to the waves V, A and F of the Auditory Brainstem Response with speech stimuli.

**Conclusion:** Masking Level Difference shows a normal result and correlated electrophysiological assessments the higher the latencies of wave V in Click Auditory Brainstem Response and waves V, A and F in Complex Auditory Brainstem Response the higher Masking Level Differences.

**Key words:** Auditory perception, Electrophysiology, Brainstem.

### 6636. Relation between the presence of phonological deviations and the absence of contralateral acoustic reflex

Priscila Sleifer, Bruna Saurin, Claudine Devicari Bueno, Dayane Domeneghini Didoné  
Universidade Federal do Rio Grande do Sul

**Introduction:** The difficulties of auditory perception and organization of the phonological system at central level can compromise the adequate production of speech, characterizing the phonological deviations. The phonological deviations can negatively influence in auditory abilities.

**Objectives:** To verify the presence or absence of contralateral acoustic reflex and possible association between ear and gender in children with phonological deviations.

**Methods:** Observational and transversal study, approved by the Ethics and Research Committee, under number 2011.039. Participants were 46 children, with phonological deviations and normal auditory thresholds. The children were submitted to the evaluation of acoustic immittance measurements to verify acoustic reflexes. The equipment used was the AT 235, brand Interacoustics.

**Results:** The average age was seven years. All participants presented acoustic reflex in the frequencies of 500 and 1000Hz. In the frequency of 2000Hz, 35% did not present reflex in the right ear and 30% in the left ear. In the frequency of 4000Hz, 60% presented no reflex in the right ear and 55% in the left ear. There was no statistically significant difference between sex and the presence or absence of responses in 2000 and 4000Hz to the right ear ( $p$ -value = 0.327 and 0.321, respectively) and to the left ear ( $p$ -value = 0.520 and 0.491, respectively).

**Conclusion:** Children with phonological deviations of the sample tend to present an important percentage of absent acoustic reflexes in the frequencies of 2000Hz and, mainly, in the 4000Hz, in which more than half of the sample presented no reflex.

**Key words:** Reflex, Acoustic; Child.

### 6640. Tinnitus handicap inventory: Analysis in individuals with chronic tinnitus

Amanda Somensi Bonatto, Glória Maria Irineu Ferreira, Amanda Manera Freiry, Nathany Lima Ruschel, Letícia Petersen Schmidt Rosito, Adriane Ribeiro Teixeira, Celso Dall'Igna  
Universidade Federal do Rio Grande do Sul

**Introduction:** Tinnitus is a symptom that can go unnoticed by the individual or can lead to severe discomfort, hampering the performance of activities of daily living.

**Objective:** To analyze the annoyance caused by tinnitus in patients with chronic tinnitus.

**Methods:** Individuals with chronic tinnitus, attended at a specialized outpatient clinic, were included in the sample. All had tinnitus for at least six months and responded to the Tinnitus Handicap Inventory questionnaire on the first day of the evaluation.

**Results:** 735 patients, aged between 9 and 89 years (mean 59.26 years), 455 (61.48%) were female. The Tinnitus Handicap Inventory score ranged from 0 to 100 points (mean of 42.94 points). When the analysis was made for the degree of discomfort, it was found that 135 patients presented negligible nuisance (0 to 16 points), 200 mild annoyance (18 to 36 points), 177 moderate nuisance (38 to 56 points), 134 severe nuisance (To 76 points) and 89 patients presented catastrophic discomfort (78 to 100 points).

**Conclusion:** It was found that most of the evaluated patients presented significant annoyance with tinnitus, which probably led them to seek specialized treatment.

**Key words:** tinnitus, annoyance, questionnaire.

### 6647. Fear of falling among older people practicing physical exercise - age analysis

Amanda Manera Freiry, Renata Silva Soares, Amanda Somensi Bonatto, Andréa Kruger Gonçalves, Adriane Ribeiro Teixeira, Alexandre Hundertmark Lessa, Maira Rozenfeld Olchik  
Universidade Federal do Rio Grande do Sul

**Introduction:** Worry about falling can lead to fear of falls and loss of quality of life, fear of carrying out activities of daily living and suffering falls.

**Objective:** Is evaluate the concern about falling by elderly practicing physical exercise, considering the age of the elderly people.

**Methods:** Elderly exercise students of both sexes, who answered the Falls Efficacy Scale (FES-I), were translated into Portuguese by Camargos (2010). Elderly patients with a history of neurological, motor and cognitive disorders excluded from the study. The research approved by a research ethics committee.

**Results:** 109 older adults participated, with a mean age of  $72.1 \pm 6.2$  years. Group 1 was composed of 40 elderly individuals aged 60 to 69 years, mean age  $65.6 \pm 2.9$  years, Group 2 with 54 elderly individuals from 70 to 79 years old. Years, with a mean age of  $74.0 \pm 2.3$  years and Group 3, with 15 elderly individuals over 80 years of age, with a mean age of  $82.3 \pm 3.0$  years. The total Falls Efficacy Scale - I score was  $24.0 \pm 7.0$  points. Age analysis showed that in Group 1 the mean score was  $23.3 \pm 6.0$  points, in Group 2 it was  $24.4 \pm 7.9$  points and in Group 3 it was  $24.5 \pm 6.5$  points. There was no significant difference between the scores in the different groups ( $p = 0.70$ ).

**Conclusion:** The increase in age did not influence the score obtained by the elderly evaluated.

**Key words:** falls, physical exercise, elderly people

### 6658. Benefits of implantable auditory prostheses in subjects with unilateral hearing loss: systematic review

Gleide Viviani Maciel Almeida, Angela Ribas  
Universidade Tuiuti do Paraná

**Introduction:** The binaural hearing is the proper condition that allows the listener the depth dimension and sonority necessary to the perception of the soundworld. When there is a unilateral hearing loss, the Cros system appears as a treatment option, as the bone-anchored hearing aids, and the cochlear implant.

**Objective:** To verify the effectiveness of the use of implantable hearing aids in adults with unilateral hearing loss,

and adequate tests to evaluate the sound localization and speech recognition in the presence of noise.

**Data Synthesis:** A research was carried out in the databases of PubMed, Cochrane, LILACS and Science Direct, of articles published between January 2005 and September 2015. After critical evaluation, 21 studies were selected for analysis of the results, being seven experimental, six prospective, three descriptive, four series of cases and one case study. 11 articles evaluated subjects with bone-anchored hearing aids, and 10 tested subjects with cochlear implants. All users of the cochlear implant, and some with bone-anchored hearing aids showed improvement of the sound localization. Only one article, that evaluated users of bone-anchored hearing aids, did not find an improvement in the ability to recognize speech.

**Conclusion:** Despite the great clinical heterogeneity observed among the studies that evaluated the auditory rehabilitation of patients with unilateral hearing loss, it is possible to conclude that the cochlear implant provides better results for both the localization ability and the speech recognition in the presence of noise.

**Key words:** Unilateral Hearing Loss. Cochlear Implant. Bone Conduction. Hearing Aids.

#### 6661. Perception of the elderly pertaining to the restriction of participation

Adriana Bender Moreira de Lacerda, Débora Lüders, Patrícia Arruda de Souza Alcarás, Camille Paes Camargo, Giselle Massi  
Universidade Tuiuti do Paraná

**Introduction:** Presbycusis reduces social contact for the elderly, generating serious emotional changes.

**Objective:** To verify the perception of the elderly concerning participation restriction.

**Method:** A cross-sectional and quantitative study done with people over 60 years old with hearing loss. They were either users or non-users of sound amplification equipment. The Hearing Handicap Inventory for the Elderly questionnaire (HHIE) was applied.

**Results:** The sample consisted of 46 individuals, of whom 43.48% (n = 20) were female and 56.52% (n = 26) were male. The average age was 74.78 years. According to the survey, 50% (n = 23) do not wear a hearing aid, 45.65% (n = 21) of them wear one, and 4.35% (n = 2) did not respond to the question. The most frequent type of hearing loss was bilateral sensorineural in 73.91% (n = 34) of subjects. Hearing loss of a moderate degree was found. Sloping hearing loss was found for 73.91% (n = 34) of subjects. The HHIE results showed that 50% of the sample (n = 23) had a perception that their handicap was significant; 32.6% (n = 15) had a perception that it was mild to moderate, and 17.4% (n = 8) did not perceive any handicap. No significant differences were observed between the HHIE results in correlation to gender, age, and auditory findings.

**Conclusion:** The elderly with hearing loss presented a significant perception to their restricted participation, which can have an impact on the quality of life.

**Key words:** Hearing Loss. Presbycusis. Quality of life.

#### 6662. The Use of Nasometry in Speech and Language Assessment: A Systematic Review

Caroline Rodrigues Portalete, Tainá Rossato Benfica, Karina Carlesso Pagliarin, Marcia Keske-Soares  
Universidade Federal de Santa Maria

**Introduction:** Even nasometry provides quantitative data, it is the speech-language pathologist who identifies any resonance disturbances. To ensure the reliability of nasalance measurements, it is necessary to observe the nasometry application in speech-language research.

**Objective:** This systematic review aimed to verify the use of nasometry as a method for quantitative evaluation of speech and if it is a standardized method for speech assessment in velopharyngeal dysfunction.

**Data Synthesis:** A systematic search was conducted between April and May 2017 in PubMed literature database. After these, two reviewers identified the relevant studies based on full texts.

It was found 85 studies that investigated overall intelligibility, voice and resonance in normal adults, as well as in velopharyngeal dysfunctions. Of all the studies, 10 (11,76%) reported measures of nasalance in normal adults. 31 (36,47%) investigated the velopharyngeal behavior in patients with cleft palate. 39 (45,88%) investigated the voice, resonance and velopharyngeal behavior in several velopharyngeal dysfunctions: hiponasality, dysarthria, velopharyngeal incompetence, craniofacial anomalies, etc. Finally 5 (5,88%) used nasometry to analyze the benefits of quantitative methods in speech assessment, likewise the correlation between perceptual judgements and instrumental assessments.

**Conclusions:** There are many studies using nasometry to assess the velopharyngeal behavior in velopharyngeal dysfunctions. On the other hand, there are not studies that actually propose a standardization or normative data for nasalance measurements. We suggest that further studies with nasometry in assessment and speech therapy be conducted, so the clinical evidence of its benefits is shown.

**Key words:** nasometry; review; assessment; therapy; velopharyngeal dysfunctions.

#### 6694. Swallowing and speaking valve use indication in tracheostomized patients in intensive care unit

Rosângela Aparecida Luz Barros, Lenice de Fátima da Silva Munhoz  
Instituto de Estudos Avançados da Audição - leaa

**Introduction:** Swallowing and Speaking Valve is a device that redirects air flow through the vocal folds, mouth and nose enabling voice and improved communication when placed on the hub of the tracheostomy tube. It offers numerous clinical benefits, including mechanical ventilation weaning, decannulation, secretion management and improved swallowing.

**Objective:** To identify the proportion of tracheostomized patients with indication of swallowing and speaking valve use in intensive care unit.

**Methods:** Cross-sectional observational study carried out with 15 tracheostomized patients (seven female, eight male, average age =  $52,2 \pm 22,5$  years) in intensive care unit. Clinical assessment and Blue Dye Test were conducted by speech language pathologist, when patients were stable clinically and after mechanical ventilation weaning. Descriptive statistical analysis was performed in the obtained data.

**Results:** In clinical assessment, 40% of subjects were in spontaneous ventilation, 46.7% T tube and 13.3% dependent on non-invasive mechanical ventilation due to neurodegenerative diseases. All patients were conscious, oriented, with good communicative initiative and language comprehension. On speech, the intelligibility, prosody and articulation were good in 66,7%. All participants tolerated deflating the cuff. In Blue Dye Test, 60% showed negative results, 13,3% positive in small quantity and 26,7% positive in massive quantity. Thus, 73,3% of patients had indication to start swallowing and speaking valve use.

**Conclusion:** A high proportion of tracheostomized patients in intensive care unit had indication to swallowing and speaking valve use, which could benefit and accelerate the therapeutic process.

**Key words:** tracheostomy; deglutition disorders; speech, language and hearing sciences; intensive care units.

#### 6695. Monitoring Hearing In Adults Undergoing Chemotherapy with Cisplatin

Tatiane de Almeida Valverde, Priscila Ivanchuk Damiani, Daniela Gil  
Universidade Federal de São Paulo

**Introduction:** Ototoxicity can cause permanent auditory disturbances and impair vestibular functions. Among the drugs used in chemotherapy treatment one of the most prevalent is cisplatin, with high ototoxic power. The hearing monitoring of these patients is of great importance, since, with the exams, it is possible to make an early detection of hearing loss.

**Objective:** To investigate the influence of the use of cisplatin on the peripheral auditory system in adult oncology patients.

**Methods:** The sample was selected at the Clinical and Experimental Oncology Center of the Federal University of São Paulo.

The audiological tests used for monitoring were pure tone and high frequency audiometry, logaudiometry, acoustic immittance measurements, transient and distortion product evoked otoacoustic emissions. Three monitoring evaluations were proposed.

**Results:** Sixty-six patients were selected, 16 of whom attended and 10 could be included in the study. Of these 10 patients, only 5 performed the third evaluation. There was a significant increase in auditory thresholds in the frequencies of 0.5 kHz and 16 kHz in the right ear and in the frequencies of 0.5 kHz, 2 kHz and 14 kHz in the left ear. There was an increase in the thresholds of the other frequencies bilaterally, mainly the high frequencies.

**Conclusions:** Cisplatin has a deleterious effect on the peripheral auditory system in adult oncology patients, mainly affecting high frequencies and bilateral cochlear function.

**Key words:** hearing loss, cisplatin, monitoring, audiology, oncology.

#### 6698. Immunostaining of stem cell pluripotent factors in the human submandibular fetal gland development

Tamires Albuquerque Gomes, Jose Roberto de Araujo, Tiago Nicoliche Maria, Marcelo Cavenaghi Pereira da Silva  
Universidade Federal de São Paulo

**Introduction:** The submandibular gland is responsible for the production of 60% of the saliva produced and it is derived from the endoderm. Its early formation appears in the sixth week of fetal development, which lasts about 40 weeks. Its morphogenesis happens gradually and it is divided into four developmental stages: Bud, branch, cleftining and cytodifferentiation. It is composed by the acinus and the ductal system, formed by intermediate ducts, striated ducts and major duct. It is in the course of this network that the saliva is formed and modified to protect the oral cavity and act at the beginning of digestion.

**Objective:** In the developmental and maintenance process of the submandibular gland, a high proliferative level was found in its terminal branches. The aim of this study is to evaluate the immunostaining of stem cell pluripotent factors: Nanog, Stat-3 and Musashi-1 in the early developmental stages.

**Methods:** Ten fetal submandibular glands between 12 and 18 weeks of fetal development were submitted to morphological analysis and immunohistochemistry process of some usual stem cell markers: Nanog, Stat-3 and Musashi-1.

**Results:** The immunostaining was qualified in strong expression, medium expression and low expression in each of the components of the ductal system. We observed that during the developmental process the immunostaining was intense in the proliferative areas.

**Conclusion:** We can conclude that the immunoexpression of the studied proteins are closely related to proliferation or maintenance of the ductal system.

#### 6731. Study of temporal processing and figure-ground ability in children with dysphonia

Angélica Tiegs, Aline Buratti Sanches, Maria Francisca Colella dos Santos, Ana Carolina Constantini  
Universidade Estadual de Campinas

**Introduction:** Central auditory processing disorders may be comorbid with other dysfunctions, such as dysphonia. The dysphonic patient presents with a distorted perception of his voice and hardly uses his own audition to control it.

**Objectives:** To analyze the results of central auditory processing assessment in children with dysphonia, by means of Dichotic Digit, Gaps in Noise and Frequency Pattern tests.

**Methods:** Comparative cross-sectional study, previously approved by the Institutional Ethics Research Committee. The sample was composed by 14 children, ranging from 8 to 11 years old, male and female, divided into two groups: 7 belonged to the Study Group, with a previous otorhinolaryngologic diagnosis of functional or organic-functional dysphonia, and 9 belonged to the Control Group, with no voice dysfunction or other alterations. Data gathering was composed by anamnesis, recording and auditory-perceptual evaluation of voice, meatoscopy, complete audiological evaluation and auditory processing assessment through behavioral tests. The voices of all patients were analyzed by three speech-language pathologists. Data was analyzed statistically.

**Results:** There was a statistically significant difference between the groups in Gaps in Noise and Frequency Pattern tests, as the Control Group had a better performance. There was no significant difference in the Dichotic Digit test.

**Conclusions:** Based on the results, we concluded that children with dysphonia presented Central Auditory Processing disorders, with changes in the auditory abilities of temporal ordering and temporal resolution. These findings suggest the need of a broader diagnosis regarding dysphonias, based on Central Auditory Processing.

**Key words:** Audiology, dysphonia, child.

#### 7768. Evaluation of binaural integration in the elderly: an electrophysiological measure

Anna Caroline Silva de Oliveira, Francieli Trevizan Fernandes Toneloti, Yara Bagali Alcantara, Viviane Borim de Góes, Letícia Sampaio de Oliveira, Ana Claudia Frizzo  
Faculdade de Filosofia e Ciências -Unesp Campus Marília, Sp

**Introduction:** Human aging generates degeneration of the physiological, functional and behavioral aspects, as well as structural changes in the central pathways. Communicative difficulties are common in the elderly. The Auditory Middle Latency Response is effective in the auditory pathway assessment at the cortical level.

**Objective:** To investigate, analyze and compare responses of medium latency auditory evoked potentials with binaural stimulation in the elderly with and without hearing loss.

**Methods:** Ethics Committee (no. 54548516.9.0000.5406). A basic audiological assessment was performed to divide individuals into groups. Group 1: 20 individuals of both genders, from 60 years, healthy, without hearing loss; Group 2: 20 individuals of both genders, aged 60 years and older, with hearing loss - thresholds between 30 and 70 dBNA in the frequencies of 4 to 8 kHz. The potential was recorded in C3A1 and C4A2 with binaural stimulation and the binaural integration component performed from the summation of the ipsi and contralateral monoaural records subtracted from the binaural. It was performed descriptive and inferential analysis of the data using Shapiro - Wilk normality test, followed by the T Test if parametric, and Mann - Whitney if non-parametric.

**Results:** There was a statistically significant difference ( $p < 0.05$ ) when compared to the Na-Pa interamplitude in C3A1, and in the binaural integration component in C3A1 and C4A2 is observed the Na-Pa greater amplitude in the group 1.

**Conclusion:** Elderly people with hearing loss present decreased cortical electrical activity when there is binaural stimulation.

**Key words:** Auditory Evoked Potentials, Acoustic stimulation, Elderly.

# E-Posters

## Otorhinolaryngology

### 6397. Internal jugular thrombosis due to oropharyngeal infections

Marcela de Oliveira, Daniele Ferreira, Sulene Pirana, Fabiana Caldini

Pissini, Marcela de Oliveira

Hospital Universitário São Francisco de Assis

**Introduction:** Deep cervical infections can result in serious complications such as descending mediastinitis, jugular thrombosis, cavernous sinus thrombosis, and respiratory obstruction. They have several etiologies, the main ones being: pharyngotonsillitis and odontogenic.

**Objectives:** To describe two cases of internal jugular thrombosis in patients with oropharyngeal infection.

**Resumed report:** A 23-year-old patient presented odontogenic cervical abscess from the 1st and 2nd molars below the right. He underwent computed tomography (CT) showing filling failure along the middle third of the right internal jugular. Performed drainage of the cervical region, antibiotic therapy and anticoagulation. He evolved with improvement in the picture and was discharged from hospital. Follow-up of 6 months without complications. A 33 year old patient with a history of oropharyngeal pain and odynophagia for 5 days. Evidenced cervical abscess from the left tonsilic store. CT revealed left internal jugular thrombosis in a longitudinal extension of approximately 10 cm. Performed drainage of the cervical region, antibiotic therapy and anticoagulation. He evolved with improvement in the picture and was discharged from hospital. Follow-up of 6 months without complications.

**Conclusion:** The work demonstrates the importance of the diagnosis of internal jugular thrombosis in the differential and complementary diagnosis of the cervical masses. Although it is an uncommon pathology, it results from different clinical conditions of high incidence, such as oropharyngeal infections. Contrast CT is indicated as a noninvasive diagnostic method for the study of internal jugular thrombosis, in addition to being very sensitive. Treatment consists of drainage, antibiotic therapy and use of anticoagulant medication.

### 6409. Rhinolith: a case report and literature review

Natália Collodetto Soares, Luiz Felipe Roecker Ceccon, Gabriel Tremi Murara, Mariana Krelling Salgado, Afonso Possamai Della Júnior, Carlos Augusto Seiji Maeda, Lucca Policeno Paulin

Serviço de Otorrinolaringologia e Cirurgia Cervico-Facial do Hospital Universitário Cajuru

**Introduction:** Rhinoliths (rhino, nose and lithos, stone), or rhinolithiasis, are rare conditions characterized by calcified masses composed of calcium phosphate and magnesium salts, organic compounds and calcium carbonate found in the nasal cavity, and may have endogenous or exogenous origin.

**Objectives:** The objective of this study is to present a case of rhinolith in an adult woman attended at the Cajuru University Hospital, in addition to a brief review of the literature on this pathology.

**Case Report:** JAV, female, 49 years old, patient attended at the Cajuru University Hospital's Otorhinolaryngology outpatient clinic, with chronic left nasal obstruction, associated with fetid rhinorrhea, cacosmia, pain in the maxillary and nasal region on the left and posterior drip, started about 1 year ago. Anterior rhinoscopy revealed a blackened odorous mass in the left nasal fossa, bulging septal region to the right. A computerized tomography of the face was requested, which revealed a lesion affecting the left nasal cavity with areas of calcium density in the interior, with bone remodeling affecting left anterior and posterior ethmoid, sphenoid sinuses and maxillary osteomeatal enlargement. In view of the clinical history, physical and complementary examination suggestive of rhinolithiasis, the surgical

endoscopic excision was performed, with the delivery of the material for anatomicopathological examination. Patient is under follow-up without complaints.

**Conclusion:** Although rare, the importance of high clinical suspicion for the differential diagnosis of rhinoliths as a cause of unilateral nasal obstruction and cacosmia, especially in adults, is emphasized. The treatment of choice is surgical resection.

### 6413. Sleep quality in pre-school children with sickle cell disease

Ana Letícia Leite Silva, Helaina Peixoto Gurgel, Ana Taíse de Oliveira

Meurer, Jeferson Sampaio D'Avila, Carlos Rodolfo Tavares de Góis

Universidade Federal de Sergipe

**Introduction:** Children with sickle cell disease seems to be at an increased risk for sleep disorders as compared to healthy controls possibly due to disease processes, pain and adenotonsillar hypertrophy.

**Objective:** To determine the frequency of sleep disorders and adenotonsillar hypertrophy in preschool children with sickle cell disease.

**Method:** Observational study with a group of 49 children aged two to six years with sickle cell disease who attended the pediatric hematology outpatient clinic of the regional university public service. They were evaluated through the Sleep Disorders Scale in Children and otorhinolaryngological examination to assess adenotonsillar hypertrophy.

**Results:** Twenty-seven children (55.1%) were identified with a total score above the threshold considered pathological in this scale. The frequencies of sleep disorders in each of the subscales were: difficulty initiating and maintaining sleep: 44.9%; sleep-disordered breathing: 30.6%; sleep-wake transition disorders: 69.4%; excessive daytime sleepiness: 38.8%; night sweats: 49% and awakening disorders: 4.1%. Regarding adenotonsillar hypertrophy, a frequency of 38.8% was detected considering obstructive pharyngeal tonsils that took up at least 50% of the choanal space and a frequency of 26.5% considering obstructive pharyngeal tonsils when there was choanal occlusion of at least 70%.

**Conclusion:** A pathological score on the Sleep Disorders Scale in Children was found in 55.1% of preschool children with sickle cell disease. The frequency of adenotonsillar hypertrophy was lower than that reported in the medical literature.

**Key words:** sleep wake disorders; child, preschool; sickle cell disease.

### 6416. Foreign body in Otorhinolaryngology: experience in a Tertiary Care Hospital in Curitiba

Natália Collodetto Soares, Mariana Krelling Salgado, Afonso Possamai Della Júnior, Cláudia Paraguaçu Pupo Sampaio, Jacqueline Oliveira de Matos, Lucca Policeno Paulin, Luiz Felipe Roecker Ceccon

Hospital Universitário Cajuru de Curitiba-Paraná

**Introduction:** Foreign bodies are frequent reason for attending emergency hospital services. By definition, it is any animate or inanimate object that can be found in the external auditory canal, nasal cavity and paranasal sinuses, oropharynx, hypopharynx and larynx, and which is not originally part of these sites, and can affect any age group. They can be introduced voluntarily or accidentally.

**Objective:** Statistical and epidemiological analysis of the profile of patients attended with a foreign body of the nose or ear at the Cajuru University Hospital of Curitiba - Paraná.

**Methods:** Retrospective study, by filling out questionnaires, of the patients seen in the Emergency Department of the Hospital Universitario Cajuru with a foreign body of nose or ear, during a period of one year, from April 2016 to May 2017.

**Results:** In the analyzed period were attended 108 patients, 57 females and 51 males, the most common site was ear (63%), and the most common foreign bodies were beads (12%) and beans (10%). The mean age of the patients was: 8,5 years and the time of evolution was less than or equal to one day in 44% of the patients. Surgical approach was required in 12% of the cases.

**Conclusion:** Foreign body is identified mainly in children, and the most frequent site in our study was in the external auditory canal. The type, size, and location of the foreign body will influence the difficulty of withdrawal. The attempt of inadvertent withdrawal by other professionals can lead to unwanted consequences.

#### 6428. The prevalence of obstructive sleep apnea and metabolic syndrome risk in brazilian civil aircraft pilots

Guilherme Enguer Lagoeiro Ribeiro Martins, Denise Duprat Neves, Tamires Able Carmona, Ana Luiza Enguer Lagoeiro Ribeiro Martins, Antonio Augusto Freitas Junqueira, Maria Helena de Araujo Melo  
Hospital Universitário Gaffree e Guinle / Unirio

**Introduction:** The association of Obstructive Sleep Apnea with Metabolic Syndrome as synergistic on cardiovascular risk has been reported. Aircraft pilots exert stressful activity. If put together, their health get worst and affects flight safety. The use of internationally validated questionnaires has been useful as screening for Obstructive Sleep Apnea.

**Objective:** Calculate the prevalence of Metabolic Syndrome and probability for Obstructive Sleep Apnea in a sample of brazilian civil aircrafts pilots and the possible synergistic effect among them for cardiovascular risk.

**Methods:** A cross-sectional study was performed on 168 male aircraft pilots at the Aerospace Medicine Center in 2015. After consent, they answered to the STOP-BANG Questionnaire, had the abdominal circumference checked and provided blood sample to evaluate according to ATP-III parameters for Metabolic Syndrome. The medians of continuous variables were considered.

**Results:** The STOP-BANG Questionnaire revealed that more than half of the sample has some risk for Obstructive Sleep Apnea through this screening method. According to the ATP-III criteria, 34% of the cases had Metabolic Syndrome. Correlating the risk for obstructive sleep apnea through this questionnaire with risk for Metabolic Syndrome through ATP-III, it was observed that 20.23% of the sample presented a simultaneous risk. This characterizes a weak association between them, (OR 5.11321; 95% CI 2.2669 to 11.6045; p = 0.0001), but statistically significant.

**Conclusion:** In this population, there is an associated risk for those highlighted diseases, increasing cardiovascular risk; therefore, risk to the health of pilots and for flight safety.

**Key words:** sleep apnea; metabolic syndrome; flight safety.

#### 6429. Comparison of the uses and benefits of videoendoscopic surgery in the extirpation of the pharyngeal tonsils

Antonio Jose Assis Xavier de Souza Pinto, Maria Aparecida de Oliveira Almeida, Nadimila de Fátima Oliveira, Eduardo Poletti Camara, Érica Pinoti Esteves, Rafael José Ferri Oliveira, Raíra Vilela Muniz

**Introduction:** Many terms have been used in reference to the minimally invasive surgical approach. The words scopium and skopion mean to see, to observe. This procedure offers several advantages: a better field of vision, continuous suction of blood and extreme precision in the removal of adenoid tissue. Compared with current practices employing the adenotome or curette, it is possible with our approach to remove adenoid tissue in the most important centers: the coanal and tubal regions.

**Objectives:** Search material databases on the subject, to follow discussions about the subject and to discuss the use of video-endoscopy techniques.

**Data Synthesis:** Practiced less frequently today than in the past, adenoidectomy is still the appropriate treatment in certain specific applications, especially in children. Given the greater diagnostic efficiency of the currently available instruments, there is a need to improve this surgical procedure that has remained unchanged, in many cases for 30-40 years. While valid, traditional methods have not always yielded optimum results. Both Cannon et al.

**Conclusion:** Adenoidectomy with microdebrider and 70° endoscope, both introduced by the mouth, demonstrated that the technique is characterized by a high level of precision and a very low incidence of postoperative bleeding. The precision offered by the improved visual field of the endoscope combined with the extreme

maneuverability of the microdebridor allows the surgeon to control the efficient removal of the adenoid tissue.

**Key words:** vision, adenotome, endoscope.

#### 6431. Pregabalin treatment in a pregnant woman with glossopharyngeal neuralgia

Daniela Vieira Martins, Fabio Tadeu Moura Lorenzetti, Azis Arruda Chagury, Letícia Helena de Sousa Marques  
Hospital Oftalmológico de Sorocaba

**Introduction:** Glossopharyngeal Neuralgia (GPN) is an unusual cranio facial clinical syndrome characterized by paroxysms of a stabbing pain in the distribution area of the glossopharyngeal nerve (IX) and sometimes the vagus (X) cranial nerve. Recently, pregabalin, another Gamma-Aminobutyric Acid (GABA) analog, been shown to be successful for the treatment of trigeminal neuralgia (TN) and GPN.

**Objective:** Evaluate the efficacy of pregabalin treatment in a pregnant woman with glossopharyngeal neuralgia.

**Resumed report:** Brazilian woman, 34 year-old, in the 16th week of her second pregnancy started experiencing strong intensity (Visual Analog Scale - VAS 9) intermittent odynophagia episodes, radiating to the right ear, and worsening with chewing and swallowing. Treatment was started with pregabalin 75 mg/day for 5 days and this was then increased to 150 mg/day. She returned after 15 days with gradual recovery from pain (VAS 7) and after 30 days suffered little discomfort (VAS 2). After 60 days of treatment, improvement was complete. Her baby was born by cesarean delivery without complications or congenital changes. An encephalic and cervical Magnetic Resonance Imaging (MRI) scans were taken after the gestational period to rule out a tumor as a possible etiology. This was because of the exposure risks that the contrast could cause to the fetus.

**Conclusion:** Treatment with pregabalin seems to be a good option for pain symptom remission as an alternative effective therapy and with no apparent complications for the fetus

**Key words:** pregabalin, glossopharyngeal neuralgia, pregnant woman.

#### 6433. Brain and septal abscess an interesting report

Lucas de Abreu Lima Thomé da Silva, Cyro Lopes dos Santos, Bianca Mendonça de Almeida, Ana Cristina da Costa Martins, Thais Ariane Turra Picolo  
Septo/PUC-RJ

**Introduction:** the septal abscess is secondary to nasal trauma and may cause serious complications like the cerebral abscess. Affect young people of male sex and suspected whenever there is a complaint of nasal obstruction, fever and flogistic signs after nasal trauma. The treatment is surgical drainage and bilateral followed by nasal package. Brain abscess has to be thought when associated with neurological signs.

**Objetive:** emphasize the importance of early diagnosis in the septal abscess, to avoid the possibility of potential complications.

**Case report:** 6 years old patient with flu symptoms, finded otorhinolaryngological care emergency after 8 days of treatment with amoxicilin without improvement. Rhinoscopy with bilateral anterior septal bulging. The antibiotics was changed to amoxicilin clavulanate associated with oral corticotherapy, without better clinic. Now with indication of hospital intervention for tomographic evaluation and possible approach of the septal abscess. The tomography of paranasal sinuses confirmed the septal abscess but also showed a sugestive image of brain abscess. Initiated conservative treatment with endovenous antibioticotherapy: vancomycin + ceftriaxone + clindamicin + corticotherapy iv. After 48 hours of endovenous antibioticotherapy, magnetic resonance imaging of the skull was performed for a better evaluation of the septal and brain abscess. The septal abscess reduction and improvement was visualized. The patient has been discharged by otorhinolaryngology and continues the treatment with pediatrics and neurology.

**Conclusion:** always think about the complication of cerebral abscess, even if the patient has not manifested neurological symptoms.

**6452. Poisoning by chronic use of nafazoline**

Mariana Krelling Salgado, Otávio Ricardo Muniz Filho, Letícia Leahy, Jacqueline Oliveira de Matos, Gabriel Borges Veado de Assis, Afonso Possamai Della Júnior, Natália Collodetto Soares  
Hospital Universitário Cajuru

**Introduction:** Nafazoline is mainly used for its vasoconstricting and decongestant action.<sup>1,3,4,6,8</sup> This drug has a narrow therapeutic window and manifestations of intoxication reach a peak at 6 to 8 hours after exposition.<sup>5,6,8</sup> The signs and symptoms of higher prevalence found are: drowsiness or agitation, diaphoresis, hypothermia, bradycardia, hypertension, miosis or mydriasis, and respiratory distress.<sup>1,2,4,5,6,8</sup>

**Objectives:** To describe a case of Nafazoline Intoxication with improvement of symptoms after the use of Naloxone.

**Resumed report:** A male patient with a history of progressive throbbing headache, without improvement or worsening factors and no associated symptoms. Refers chronic use of Naphazoline for 4 years, consuming 1 bottle per day for the past 3 months. In the physical examination at admission, the patient presented hypertension and bradycardia. Once the hypothesis of Nafazoline intoxication was raised, it was opted for the use of Naloxone and suspension of topical Naphazoline, obtaining an improvement of the symptoms, without new complaints. Systemic involvement due to Naphazoline poisoning is rare. However, if present, it should be promptly reversed, as progression of the condition can lead to severe complications, with emphasis on central nervous system depression and intense peripheral vasoconstriction. Although there is no specific treatment, Naloxone has been suggested as a possible antagonist due to its antihypertensive properties of central action.

**Conclusion:** Systemic symptoms of Naphazoline poisoning are rare, but when present, may progress to severe conditions. Therefore, the capacity to recognize them and to establish appropriate and effective therapeutic measures is necessary.

**Key words:** nafazoline, intoxication, Naloxone.

**6453. Inflammatory pseudotumor of orbit**

Mariana Krelling Salgado, Lourimara de Moura Moreira, Carlos Augusto Seiji Maeda, Jacqueline Oliveira de Matos, Andressa Gervasoni Sagrado, Lucca Policeno Paulin, Letícia Leahy  
Hospital Universitário Cajuru

**Abstract:** Inflammatory pseudotumor of orbit is a benign condition of unknown etiology in which there is an inflammatory process in the orbit. The most common symptoms are: pain, hyperemia, edema, proptosis, ptosis, chemosis, oculomotor deficit, diplopia, visual deficit and mass formation.

**Objectives:** To describe a case of inflammatory pseudotumor of orbit with improvement of symptoms after surgical biopsy and corticoid cycle.

**Resumed report:** Female patient with a history of proptosis, left ocular hyperemia and mild cognitive deficit six months ago, with slow and continuous progression. Face tomography revealed left maxillary sinus occupied by soft tissue matter (bulky polyp), left proptosis and lesion in the medial rectus muscle. Established the diagnostic hypothesis of inflammatory pseudotumor of the orbit, it was opted for endoscopic sinusotomy to perform surgical biopsy. A cycle of oral corticosteroid therapy was started. On the 30th postoperative day, the patient reported an important improvement in proptosis and denied other complaints. The inflammatory pseudotumor is considered the third most common orbital disease. The clinical picture depends on where it is installed and the acute or chronic evolution of the lesion. The treatment of choice consists of administration of high doses of systemic corticosteroids. If located, surgical treatment can be performed. Inflammatory pseudotumor of orbit may recur within 10 years.

**Conclusion:** First-line treatment for inflammatory pseudotumor of orbit is based on corticosteroid therapy. When located, especially in anterior orbit compartment, surgical treatment may be employed. Diagnostic confirmation through biopsy is always valid.

**Key words:** pseudotumor, orbit, inflammatory.

**6454. Typical and atypical presentations of mucocele of the paranasal sinuses**

Mariana Krelling Salgado, Letícia Leahy, Lucca Policeno Paulin, Andressa Gervasoni Sagrado, Barbara de Paula Cioni, Carlos Augusto Seiji Maeda, Afonso Possamai Della Júnior  
Hospital Universitário Cajuru

**Introduction:** Paranasal sinuses mucocele are expansive cystic lesions, with a mucous and sterile content.<sup>1,2,3,4,5,6</sup> Although benign, there may be involvement of adjacent noble structures by compression, thinning and erosion of bone walls, situations that characterize clinical symptoms of greater severity<sup>1,2,3,4,6</sup>. They are more frequently located in the frontal and the ethmoidal sinuses. The involvement of the maxillary and sphenoid sinuses is rare.<sup>1,2,3,5,6</sup> Typically present unilateral manifestation.<sup>5</sup> The symptoms present slow evolution and depend on the location and the volume of mucocele, being ophthalmological, neurological, rhinological or aesthetic.<sup>1,2</sup>

**Objectives:** To describe a case of mucocele with atypical distribution, affecting multiple paranasal sinuses and related to facial deformities.

**Resumed report:** Male patient with a tumor appearance in the right naso-orbital region for one month and right hemicranial headache. There was no complaint of lacrimation, local pain or nasal symptoms. In the tomography, there were signs consistent with mucoceles of the maxillary and frontal sinuses. The lesion was in the right maxillary sinus, extending to ethmoidal cells on the right and to the right nasal fossa. There was bulging of the right orbit. Magnetic resonance imaging showed signs of frontoethmoidal mucopiocele on the right and bilaterally ate the maxillary sinuses. It was performed mucocele excision via nasal endoscopic sinusotomy associated with Lynch access.

**Conclusion:** Paranasal sinus mucoceles have a slow onset and late diagnosis. Attention should be paid to symptoms indicative of pathology, so that there is proper investigation and, thus, reduce the complications of this lesion.

**Key words:** mucocele, paranasal, sinuses.

**6461. Long-term follow-up of a patient with Usher Syndrome Type II**

Nathalia de Paula Doyle Maia, Luiz Guilherme Marchesi Mello, Antonio Augusto Freitas Junqueira  
Hospital Central da Aeronáutica

**Introduction:** Usher syndrome is a rare autosomal recessive disease characterized by bilateral progressive sensorineural hearing loss and retinitis pigmentosa, divided in four types. Type II is a congenital bilateral sensorineural hearing loss, compromising more severely the high frequencies, with preserved vestibular function and retinitis pigmentosa.

**Objectives:** The purpose of this study is to report a 10-year otolaryngological follow-up of a patient with Usher Syndrome type II and to emphasize the importance of early diagnosis and management.

**Resumed report:** A 7-years-old girl was referred to the Department of Otorhinolaryngology for evaluation of literacy difficulties. Patient presented delayed speech development, family history of deafness and two older sisters with hearing loss and learning difficulty. Otoneurological examination was normal. However, audiometry showed a moderate to severe sensorineural hearing loss. Patient begins to use hearing aids and was referred to ophthalmologic evaluation due to the hypothesis of Usher syndrome type II. An atypical retinitis pigmentosa, with arteriolar attenuation, white retinal dots in the mid-periphery and optic disk pallor was observed, confirming our diagnostic. After 10 years, hearing loss slightly progressed bilaterally, but literacy development has reached normality, and fundoscopy revealed classical bones-spicules.

**Conclusion:** Usher syndrome is an uncommon disease with important otolaryngological manifestations. Early diagnosis impacts in patients neuropsychological and social development. It is important to guide the patient and family members about clinical

manifestations, genetic inheritance, adequate treatment, (e.g. early fitting of hearing aids, cochlear implant and speech training) follow-up with routine auditory and ophthalmological examination.

**Key words:** Usher syndrome, hearing loss, retinitis pigmentosa.

#### 6484. Profile of patients submitted to parotidectomy at Santa Casa Hospital in Curitiba

Natália Colodetto Soares, Lucca Policeno Paulin, Jacqueline Oliveira de Matos, Mariana Krelling Salgado, Afonso Possamai Della Júnior, Cristiano Roberto Nakagawa, Letícia Akazaki Oyama  
Hospital Santa Casa de Misericórdia de Curitiba- Paraná

**Introduction:** Parotid tumors represent 3 to 5% of head and neck tumors, with a mean age of 45 years, predominating in females. The most common histological type is pleomorphic adenoma and the recommended treatment is the removal of the gland, regardless of the benign or malignant character.

**Objectives:** Epidemiological analysis of the profile of patients submitted to parotidectomy at the Otorhinolaryngology Service of Santa Casa Hospital, Curitiba, Paraná.

**Methods:** A retrospective study was performed through data analysis from charts of patients submitted to parotidectomy during the period from November 2013 to March 2017 at Santa Casa Hospital, Curitiba, Paraná.

**Results:** A total of 46 parotidectomies were performed, 30 in the female gender and 16 in the male one. The mean age was 51 years (24-78 years). Smoking was present in 16 patients (34.7%). 29 surgeries performed were superficial parotidectomies, 9 total parotidectomies and 8 not described if superficial or total. The right side was more affected (60.8%). The two most common histological types were pleomorphic adenoma (47.8%) and Warthin's tumor (23.9%). Twelve patients (26%) had complicated with facial paralysis and the regression was obtained in 10 of them. No patients had Frey syndrome postoperatively.

**Conclusion:** The parotid tumors are infrequent and benign in most cases. Pleomorphic adenoma represents the most common histological type, as confirmed by this study and other authors. The most indicated treatment is superficial parotidectomy with preservation of the facial nerve, if possible.

**Key words:** parotidectomy, parotid neoplasm, pleomorphic adenoma, Warthin's tumor.

#### 6493. Profile of patients undergoing Functional Endoscopic Swallow Study (FESS) in the Hospital Naval Marcílio Dias (HNMD)

Natalia Mello do Vale, Larissa Odilia Costa Binoti, Daniella Leitao Mendes, Nilce Sanny Costa da Silva Behrens  
Hospital Naval Marcilio Dias

**Introduction:** The FESS is an examination conducted in the HNMD for evaluation of swallowing disorders and is conducted in all age groups. It introduces a flexible endoscope inside the nose to evaluate objectively and dynamically the pharyngeal phase of swallowing, using colored foods on the following consistencies: liquid, thickened liquid, pasty and solid.

**Objective:** To analyze the profile of patients underwent FESS in HNMD, according to sex, age, clinical complaints that prompted the review, alterations that have been found and most frequent associated illnesses.

**Method:** Retrospective cross and descriptive study, whose analysis was performed between the FESS tests held at HNMD and reported between 2015 and 2017. The following variables were analyzed: age, sex, complaints that prompted the test, presence or absence of aspiration and/or laryngeal penetration and associated illness type.

**Result:** Of the 18 patients: 71% were older than 44 years-old. Gender: 83% male and 17% female. Complaints that prompted the examination: 94.4% dysphagia, 16.6% pneumonia, and 5% voice change. Presence or absence of aspiration and/or laryngeal penetration: 72% yes and 28% no. Associated illness: 80% of the patients had some kind of neurological disease.

**Conclusion:** The most part of the patients that underwent FESS in HNMD is 44-year-old or older, male, with complaint of

dysphagia, aspiration and/or laryngeal penetration was absent in most tests and most of the patients had some kind of neurological disease.

**Key words:** FESS, swallowing, dysphagia, aspiration.

#### 6494. Laryngeal tuberculosis: an unusual presentation

Giovana Spilere Peruchi, José Fernando Polanski, Paulo Eduardo Przysiezny, Daniela Dranka Cristoff, Emmanuel Gonçalves de Azevedo Lima  
Hospital de Clínicas da Universidade Federal do Paraná

**Introduction:** Laryngeal tuberculosis accounts for less than 1% of all cases of extrapulmonary tuberculosis. The most compromised larynx sites are the vocal folds and vestibular folds. The symptoms are chronic laryngitis (dysphonia, odynophagia, dysphagia, stridor, pharyngeal globus). Our patient had an acute condition, which differs from the classic description. The treatment consists of the RIPE drug regimen for at least nine months, with a rapid response.

**Objectives:** To report an unusual case of laryngeal tuberculosis.

**Resumed report:** Male, 30 years old, farmer. Dysphagia, dyspnea 4 days ago. Base and wide body uvula with soft palate edema. Cervical lymph node enlargement. Subjected to uvulectomy. Lose 15 kilograms in 15 days, return of dysphagia and fever. Operative wound in good condition. Laryngoscopy evidenced hyperemia, edema and purulent secretion in aryepiglottic, arytenoid and epiglottic folds. Anatomopathological result of uvulectomy with granulomatous reaction and necrosis focal area, and oropharynx with tuberculous epiglottitis. Chest radiography and tomography with nodules and excavations. Positive growth for BAAR. Initiated RIPE scheme. Drastic improvement of symptomatology during the first week of treatment.

**Conclusion:** Tuberculosis is still prevalent and does not always present in a classical way. We should be prepared for atypical presentations.

#### 6495. Influence of medical consultation on tinnitus complaint

Giovana Spilere Peruchi, Lucas Resende Lucinda, Rita de Cassia Cassou Guimaraes, Thiago Sasso Carmona de Souza  
Hospital de Clínicas da Universidade Federal do Paraná

**Introduction:** Tinnitus is a symptom with increasing incidence and high morbidity. The physician's counseling to the patient with tinnitus may have great influence on the treatment of this symptom, promoting an improvement in the life quality of such patient.

**Objectives:** to evaluate the impact of counseling on perception and repercussion of tinnitus symptom on the quality of life of patients attended for the first time in a specialized outpatient clinic, besides verifying the adequacy of self-administered questionnaires for their follow-up.

**Methods:** 177 patients were selected in an otoneurology clinic according to pre-established criteria. The questionnaires Tinnitus Handicap Inventory and Tinnitus Reaction Questionnaire were applied before the first medical appointment and once more before the second appointment. Proposals for therapeutic interventions were not made, with the exception for patient orientation. The score obtained in the two moments were then, compared.

**Results:** The number of participants of both sexes was similar among themselves, with an average age being 53 years old, while the average time between the medical appointments was 62.06 days. For the Tinnitus Handicap Inventory, the average score in the first appointment was 41.2, with a significant decrease in the second (average score 33.23). In relation to the Tinnitus Reaction Questionnaire, the average score was 28.05 on the first appointment and 20.43 on the second, being this decrease also significant.

**Conclusion:** Clarifications and specific medical orientations directed to the patients with tinnitus have demonstrated to reduce its perception and discomfort, decreasing its impact on patient's general well-being.

**Key words:** Tinnitus. Appointment. Counseling. Quality of Life.

**6496. Pleomorphic adenoma in nasal cavity: case report**

Paulo Tinoco, Amanda Monteiro Piná Queiróz, Marina Bandoli de Oliveira Tinoco, Lucas Sieburger Zarro  
Hospital São José Avaí

**Introduction:** The Nasal tumors most observed in the nasal cavity are epithelial papillomas, angiomas, transitional cell carcinoma, squamous cell carcinoma and adenocarcinoma. Other less frequent tumors that appear in the nasal cavity are divided into two categories: neural and non-neural. The pleomorphic adenoma falls within the non-neural category, presenting as the most common benign glandular tumor originating in the head and neck, however, its location in the nasal cavity is rare.

**Objective:** To report a rare case of pleomorphic adenoma in the nasal cavity.

**Clinical case:** I.S.T., 07 years old, female, born in Campos - RJ. One year ago, there was a picture of unilateral nasal obstruction in the right nasal cavity, associated with intermittent epistaxis with spontaneous resolution. Subjected to different topical treatments and nasal cauterizations without improvement of the condition. Performed Computed tomography with contrast that showed an oval expansive formation in the right nostril, coming from the nasal septum measuring approximately 1.5x1.4cm. Referred to the HSJA for otorhinolaryngological evaluation.

**Rhinoscopy:** mass in the right nostril and contralateral septal deviation. Patient referred to the surgical center for excision of the lesion via endonasal by videoendoscopy. Evolving in good general conditions. Subjected to weekly postoperative endoscopic revisions without changes.

**Conclusion:** Pleomorphic nasal adenoma is a rare tumor, especially in the pediatric age group. Usually, the tumors of minor salivary glands are of intraoral localization, being rare in the nasal mucosa, where they can be due to embryonic vestiges of salivary tissue.

**6497. Cystic adoid carcinoma - case report**

Paulo Tinoco, Lucas Sieburger Zarro, Diogo Araujo Silveira, Marina Bandoli de Oliveira Tinoco, Amanda Monteiro Piná Queiróz  
Hospital São José Avaí

**Introduction:** It is a malignant salivary gland neoplasm that mainly affects the parotid, submandibular and accessory salivary, being rare in the sublinguals, occupies the fifth place of malignant epithelial lesions of the salivary glands. With slow growth and infiltrative nature, clinically it presents as a nodule of hardened consistency. It originates from the ductal and myoepithelial cells from the intercalated ducts. It occurs frequently in adults in the fifth, sixth and seventh decades of life, being uncommon in young people. Malignant neoplasms of salivary glands are rare, accounting for less than 7% of head and neck cancers.

**Objective:** Report a rare case of cystic adenoid carcinoma affecting accessory salivary gland and left maxillary sinus.

**Resumed report:** E.F.G, 69 years old, male, from Alegre-ES, sought the service presenting "tingling" in the left maxillary region for 5 months, performed a breast tomography of the face that showed a tumor in the region of the left maxillary sinus. Orosopy - no changes. Rhinoscopy - no changes. He was submitted to the surgical technique of Caldwell-luc where was resection of the tumor, and at this moment, observed bone erosion adjacent to the tumor.

**Conclusion:** Maxillary sinus cystic adenoid carcinoma has a worse prognosis because it frequently invades adjacent structures. The treatment of choice is complete surgical excision of the lesion, with safety margin. Irradiation is an adjunct treatment recommended for being useful in the control of microscopic disease, after initial surgery or in cases of local recurrence.

**6498. Bilateral liquor fistula: case report**

Paulo Tinoco, Amanda Monteiro Piná Queiróz, Marina Bandoli de Oliveira Tinoco, Diogo Araujo Silveira, Lucas Sieburger Zarro  
Hospital São José Avaí

**Introduction:** CSF occurs when there is a connection of the subarachnoid space with the nasal lumen or paranasal sinuses, can

be classified as traumatic or non-traumatic. The clinical picture shows intermittent hyaline with rhinorrhea that emanates from the nose. It occurs mainly in patients between the 4th and 6th decade of life, female.

**Objective:** Report of bilateral spontaneous cerebrospinal fluid fistula with different treatment for each fistula in the same patient.

**Resumed report:** M.A.S., 63 years old, female. One month ago, unilateral hyaline presentation (hyaline) was treated by other specialists with antiallergic and topical corticosteroids without improvement.

The presence of glucose (57mg / dl) in the nasal drip secretion was evidenced and fluorescein-tracheal injection was performed indicating fluorescent content in ethmoid region prior to nasal endoscopy.

She underwent surgery where fistula was corrected endonasal and videoendoscopy. After 48 hours of surgical postoperative, patient evolved with hyaline rhinorrhea in the left nostril and meningeal irritation. The CSF was collected, showing evidence of meningitis and a new left cerebrospinal fluid fistula. Accompanied by neurosurgery, conservative treatment for the rhinogenic fistula was chosen. After 72h of venous antibiotic therapy and laboratory normalization of the infectious condition, meningeal thickening was confirmed in the peri-fistula area and the patient's rhinorrhea ceased.

We performed weekly endoscopic controls without recurrent episodes.

**Conclusion:** The knowledge of the clinical picture and diagnostic peculiarities of the rhinogenic cerebrospinal fluid fistula is extremely important due to its incidence, difficulty in clinical management and its complications.

**6499. Diffuse large cell b-cell: case report**

Paulo Tinoco, Lucas Sieburger Zarro, Diogo Araujo Silveira, Marina Bandoli de Oliveira Tinoco, Amanda Monteiro Piná Queiróz  
Hospital São José Avaí

**Introduction:** Non-Hodgkin lymphomas of the oral cavity and oropharynx are defined as neoplasms of lymphoid cells in which the manifestation of the disease occurs on the palate, tongue, floor of the mouth, gingiva, buccal mucosa, lips, palatine tonsils, lingual tonsils or oropharynx. Diffuse large B-cell lymphoma is the most common form of non-Hodgkin's lymphoma and affects mainly adults. In the oral cavity, they account for about 2% of all non-Hodgkin's lymphomas, do not show a predilection for sex, most of them patients between the fourth and eighth decades of life, with a mean age between 50 and 60 years.

**Objective:** Clarification of lingual tonsil hyperplasia in a patient evaluated by ENT service of Hospital São José do Avaí.

**Resumed report:** E.S.P, 62 years old, female, born in Itaperuna, RJ. Patient searches for ENT service with throat ball complaint.

**Orosopy:** Oral cavity showing lingual tonsil enlargement, more evidenced to the left, without other pathological presentations. Patient denies any other clinical complaints.

An incisional biopsy of the lesion was performed and pathological analysis and immunohistochemistry were performed in the laboratory of the institution where the present condition was diagnosed.

**Conclusion:** Diffuse large B-cell lymphoma occurs outside the lymph nodes, called extranodal lymphomas, and the diagnosis can be complicated by the low rate of clinical suspicion. Lymphomas are aggressive malignant lesions, however, when identified early, they present a high potential for cure through chemotherapy associated or not with radiotherapy.

**6501. Papiloma revival inverted: case report**

Paulo Tinoco, Lucas Sieburger Zarro, Diogo Araujo Silveira, Marina Bandoli de Oliveira Tinoco, Amanda Monteiro Piná Queiróz  
Hospital São José Avaí

**Introduction:** Inverted papilloma is a rare benign neoplasm with an incidence of 0.5 to 4% of all nasosinus tumors. Predominant

in male patients between the fifth and sixth decades of life. It originates in the scheneiderian epithelium of the lateral nasal wall, characterized by the growth of the epithelium towards the stroma. It can present bilaterally, related to the malignization.

**Objective:** To report a rare case of recurrence of inverted papilloma with malignancy in the left nasal fossa in the ENT service.

**Resumed report:** G.T.C, male, 69 years old, resident of Itaperuna, sought the ENT service reporting nasal obstruction for 4 months accompanied by episodes of recurrent epistaxis. Nasal endoscopy - polypoid aspect mass, irregular, lobulated, not translucent. He was referred to the surgical center for excision of the nasal tumor and anatomopathological analysis of the specimen. After the total resection, it evolved satisfactorily in the postoperative period. The histopathologic result revealed Invasive Carcinoma with squamous differentiation. Patient is in close follow-up and with rapid improvement of obstructive symptoms.

**Conclusion:** There is a relationship between inverted papilloma and malignant neoplasm, possibly related to HPV 16 and 18, whether this association is due to a malignant degeneration of the papilloma itself or to the concomitant existence of carcinoma and inverted papilloma. Although considered benign, it is locally aggressive. The fundamental exam for diagnosis, as well as staging, is computed tomography and diagnostic confirmation by microscopy. The treatment is surgical, with complete removal, to avoid relapses, which are frequent (10-50%).

#### 6512. Evaluation of the internal bone nasal valve of the caucasian nose through computerized tomography courses for the pre- and post-rines of rhinoseptoplasty

Roberto Hyczy Ribeiro Filho, Cezar Augusto Sarraff Berger, Samuel Neiva Almino

IPO - Hospital Paranaense de Otorrinolaringologia Ltda

**Introduction:** Rhinosseptoplasty presents several steps for its accomplishment. One of them consists of osteotomies of ascending apophyses (bone nasal pyramid), in which lateral, paramedian and external osteotomies can be mentioned. This step is very important for the definition of the nasal dorsum. After performing the osteotomies the internal nasal valve may be affected.

**Objective:** To evaluate the internal nasal valve of the Caucasian nose in the pre and postoperative rhinosseptoplasty through computed tomography cuts.

**Methodology:** Prospective experimental study, in which 4 patients with a Caucasian nose, submitted to rhinosseptoplasty, were evaluated, compared to the control group, in which 5 septoplasties were performed, followed by pre and postoperative evaluation through computed tomography cuts.

**Results:** Among the results found, the mean value of the angle of the internal nasal valve in the control group was 19.36 degrees, the lowest being 15.38 degrees and the highest was 23.50 degrees and the mean angle in the rhinosseptoplasty group was 17.8 degrees. The lowest value being 15.61 degrees and the highest value being 19.37 degrees.

**Conclusion:** Through the data, we can observe the importance of the effectiveness of the technique to be used, so that the cases do not evolve to nasal obstruction. We observed with the clinical follow-up that, with the increase of the angle of the bone pyramid, the patients did not evolve with nasal obstruction, and improved the physiology of breathing due to associated septoplasty.

**Key words:** Rhinosseptoplasty; Internal nasal valve; tomography in rhinosseptoplasty; Bone pyramid.

#### 6519. The association between Ménière's Syndrome and Acoustic Sound Trauma: Case Report

Sara Costa Gomes, Gabriela Oliveira Monteiro, Thamiris Cristina Santos Lopes, Patricia Bittencourt Barcia Barbeira, Rosane Siciliano Machado, Wallace Nascimento de Souza

Hospital Central da Polícia Militar do Estado do Rio de Janeiro

The term Endolymphatic Hydrops corresponds to a dilation of the cochlear membranous labyrinth. Its causes are infectious,

autoimmune or idiopathic, this last being called the Ménière Syndrome. The diagnosis of certainty can only be given with the histopathological study of temporal bone, but there are methods that suggest such disease.

The purpose of this report is to demonstrate the association between the Syndrome and recurrent acoustic traumas, like The Theory of Associated Traumas explains.

A.M.M., military police officer, 38 years old, with Ménière Syndrome, presenting recurrent cases of non-pulsatile tinnitus, aural fullness, bilateral hearing loss and transient vertigo. He was presented in consultation due to acoustic trauma a day ago (grenade explosion), evolving with tinnitus and hearing loss in the right ear. He reported previous episodes of acoustic traumas. Pentoxifylline 400 mg was started 8/8 hours for 30 days, Prednisolone 60 mg for 4 days, followed by 40 mg for 3 days and 20 mg for 3 days. After one month, he reports important improvement of tinnitus and aural fullness. In the follow-up, six months later, our patient returns asymptomatic.

Depending on the intensity of impulsive noises, Corti's Organ can be damaged. The lesion of the ciliated cells immediately after exposure may be minimal, but then aggravates over a period of 2 to 30 days. The military population is particularly exposed to those traumas and the incidence of cochlear accidents is high on them. It's important to combat cochlear hypoxemia and to act against local inflammation as soon as possible.

#### 6526. Septoplasty with bilateral partial inferior turbinectomy (BIT) at Hospital Naval Marcílio Dias (HNMD): main postoperative complaints

Bernardo Relvas Lucas, Nilce Sanny Costa da Silva Behrens, Camila Bae Uneda, Daniella Leitao Mendes, Larissa Odilia Costa Binoti, Juliana Cagliari Linhares Barreto, Lívia Marge de Aquino Guedes Hospital Naval Marcílio Dias

**Introduction:** Septoplasty with/without BIT or inferior turbinoplasty is one of the most performed surgeries in Otorhinolaryngology. Its main indication is nasal septal deviation associated with obstruction. There are plenty of studies reporting complications, but few studies on subjective postoperative complaints.

**Objectives:** Identify the main postoperative complaints of septoplasty with BIT, using the Cottle technique, aiming to evaluate the conducts and postoperative results.

**Methods:** Retrospective study with a review of the medical records of 57 patients submitted to this surgery, performed by the same HNMD surgical team, from January to December 2016. Excluded from the study: patients submitted to other surgical techniques, patients who did not attend postoperative appointments adequately. Thus, 43 patients had their complaints evaluated from the 7th postoperative day, registering the subjective complaints maintained until the 30th day and reassessed on the 60th day.

**Results:** The complaints found in the 30th day were: 05 nasal obstruction (11.62%); 04 nasal dryness (9.30%); 03 cutaneous paraesthesia (6.98%); 02 anosmia (4.65%); 02 nasal bleeding (4.65%); 02 Headache (4.65%). On the 60th day, complaints were maintained: 04 nasal obstruction (9.30%) and 01 nasal dryness (2.32%).

**Conclusion:** The complaint of nasal obstruction was the most prevalent, due to the persistence of some septal deviation or synechia. To prevent it, it is necessary early diagnosis, advise patients about the importance of nasal lavage and review, with the residents, the technique employed. These data can be compared with other techniques used.

**Key words:** septoplasty; turbinectomy; postoperative; complications.

#### 6530. Laryngeal Hemangioma: case report

Paulo Tinoco, Gabriel Pereira Machry, Amanda Monteiro Piná Queiróz, Diogo Araújo Silveira, Lucas Sieburger Zarro, Marina Bandoli de Oliveira Tinoco

Hospital São José Avaí

**Introduction:** They affect the region of the head and neck in 60% of the cases, being rare in the larynx. They are generally

classified into two varieties those of childhood and those of adults. Since childhood is more common, the sex ratio is 3: 1 in girls. The laryngeal hemangioma in adults is more common in males. Symptoms are usually absent or restricted to mild larynx or dysphagia, and may present episodes of small intraoral hemorrhages.

**Objective:** To report a case of laryngeal hemangioma in the otorhinolaryngology department of the São José do Avaí Hospital - Itaperuna - RJ.

**Resumed report:** M.T.B, 55 years old, female, from Itaperuna-RJ, sought the service of Otorhinolaryngology reporting hoarseness associated with episodes of oral bleeding for 5 months, denying other complaints.

Oroscopy - no changes

Videolaryngoscopy - presenting in epiglottic region bluish appearance, sessile.

Patient was referred to the surgical center for laryngeal microsurgery with tumor resection and subsequent anatomopathological analysis of the specimen.

After the total resection, it evolved satisfactorily in the postoperative period.

The pathology of the service ratified the diagnosis of Laryngeal Hemangioma.

**Conclusion:** Laryngeal hemangioma in adults is a relatively rare disease. The diagnosis can be made by endoscopy and / or direct laryngoscopy. Due to the risk of bleeding the biopsy is usually not indicated. The definitive treatment is surgical.

#### 6532. Paralysis of the abducent nerve around sphenoidal sinusitis: case report

Paulo Tinoco, Amanda Monteiro Piná Queiróz, Mariana Moreno Tarifa, Diogo Araujo Silveira, Lucas Sieburger Zarro, Marina Bandoli de Oliveira Tinoco

Hospital São José Avaí

**Introduction:** Sphenoid sinusitis is a rare entity, especially when isolated and often causes major complications. Among the paranasal sinuses, the sphenoid sinus is certainly the most neglected in the diagnosis, either because it is less frequently localized in sinusitis or because of the scarce and poorly defined symptomatology. About 82.6% of cases of isolated sphenoid sinusitis present complications such as the paralysis of the VI intracranial nerve, the abducent. Regarding the clinical picture, headache is present in more than 90% of the cases, being typically retro-orbital or fronto-temporal. Fever is present in almost 100% of the cases and in 50% of the patients we can see signs of meningism or even abducent nerve palsy.

**Objective:** Report case of abducent nerve palsy for sphenoid sinusitis.

**Resumed report:** F.F.S, 37 years old, male, from Cordeiro - RJ, sought the service of Otorhinolaryngology presenting strabismus in left eye and diplopia frame for 15 days. He underwent clinical treatment with clavulin 875mg and prednisone 20mg oral for 15 days, followed after two weeks with mild improvement of strabismus and significant improvement of diplopia.

**Conclusion:** In the presence of visual changes or signs of central nervous system involvement, sphenoid sinusitis should be considered an otorhinolaryngological emergency. Eventually, even after adequate clinical treatment, there may be no complete remission of the clinical picture, if there is irreversible damage of the anatomical structures involved.

#### 6536. Emergency management of bilateral choanal atresia: rare case report

Felipe Coelho Martins, Teófilo Dorneles Claro dos Santos Silva, Marlon Ferreira Santos, Evaldo da Silva Barbosa Junior, Hugo Melo de Oliveira, Julio Cesar Passos Raminho, Rafael Leite Freitas  
Clínica Othos

**Introduction:** Bilateral choanal atresia is a very serious life-threatening condition because the baby will then be unable to breathe directly after birth, as babies are obligate nasal breathers. These babies may require airway resuscitation soon after birth.

**Objectives:** To report and discuss the main behaviors in the face of an otorhinolaryngological emergency of rare presentation.

**Resumed report:** Newborn preterm 37 weeks, normal delivery at a Regional Hospital in Imperatriz, Maranhão. Weight at birth: 1,480 grams, height 43 cm, cephalic perimeter 30.2 cm, female, Apgar at first minute 2 and fifth minute 7, evolves with respiratory discomfort, requiring ambu bag in the delivery room, being transferred to intensive care unit of the reference unit. The otorhinolaryngology opinion was requested, performed computed tomography and videonasofibroscopy, where signs compatible with bilateral choanal atresia were observed. Surgery was performed with aspiration of the two nasal cavities. Cotton cotonoids embedded in xylocaine solution and adrenaline 1: 2000 were used for vasoconstriction, incision and opening of the atresic plaque were performed near the nasal septum and fossa floor, enlargement of the opening with the Citelli clamp, and was putted a ureteral probe in the nose for three weeks to the soft palate with suture in anterior portion of the nasal septum. Ambulatory follow-up without intercurrences and with good postoperative result.

**Conclusion:** Bilateral choanal atresia is a rare disease that puts the child's life at risk, and in most cases the need for a quick surgical approach.

**Key words:** choanal atresia, emergency, newborn.

#### 6539. Diode laser for laryngeal microsurgery: our experience and literature review

Lucas Resende Lucinda, Nina Raisa Miranda Brock, Evaldo Dacheux de Macedo Filho, Maria Theresa Costa Ramos de Oliveira, Daniela Dranka Cristoff  
Hospital de Clínicas da Universidade Federal do Paraná (Hc/UFPR) e Instituto Paranaense de Otorrinolaringologia (Ipo)

**Introduction:** The use of laser in laryngeal microsurgery has some advantages when compared to conventional cold surgery, such as reduction of postoperative pain and shorter time of surgical recovery. The diode laser has valuable hemostatic properties, is portable and is associated with lower costs in comparison to CO<sub>2</sub> laser. However, standardized parameters of laser use for laryngeal microsurgery are lacking.

**Objectives:** To describe the technical parameters used in laryngeal microsurgery with diode laser and the clinical data of the patients treated with this technique in our service, also presenting the surgical outcomes obtained.

**Method:** A retrospective cross-sectional study carried out by analysis of 37 medical records of patients submitted to laryngeal microsurgery using diode laser in pulsed mode. The laser beam was delivered by a 400 micrometers fiber with an output power of 3000 milliwatts. Postoperative follow-up occurred both in the 1st month and between the 4th and 6th months after surgery. Clinical complaints and videolaryngoscopy were then assessed.

**Results:** 57% of the patients were women, with a mean age of 49 years. The most common lesion was laryngeal polyps (35%). We did not report intraoperative or immediate postoperative complications. 75% presented normal examination at postoperative videolaryngoscopies. Among those with alterations, the most common findings were scar retraction and residual edema.

**Conclusion:** Laryngeal microsurgery with diode laser presented satisfactory results for a wide range of laryngeal pathologies. It was safe and easy to handle and optimized surgical time. There were no intercurrences during its application nor any significant postoperative complications.

#### 6541. Ramsay Hunt syndrome occurring simultaneously with acoustic nerve Schwannoma: Case report

Afonso Esteves Penazzo, Maruska D'Aparecida Santos  
Universidade do Vale do Sapucaí, Pouso Alegre, MG, Brazil

**Introduction:** Vestibular schwannoma is a benign tumor that occurs most frequently in the pontocerebellar angle. Clinically it is manifested according to the area of tumor compression. Unilateral dysacusis, tinnitus and vertigo are common symptoms. Ramsay Hunt syndrome occurs by reactivation of the latent herpes zoster virus in the

facial nerve ganglion. It is characterized by peripheral facial paralysis accompanied by otalgia. Dysacusis, vertigo and tinnitus may occur.

**Objectives:** Report a case of Ramsay Hunt syndrome and vestibular schwannoma occurring simultaneously.

**Resumed report:** Male, 73 years old, with right dysacusis for 20 years, without investigation. In January 2017 presented otalgia in the left ear, evolving with peripheral facial paralysis (House-Brackmann, grade V), vertigo and dysacusis on the left, clinically diagnosed with Ramsay Hunt syndrome. The magnetic resonance of the skull showed infiltrative process of the external auditory canal to the left, extending to the parotid region, fatty planes, tympanic box, labyrinth portion and bottom of the internal auditory canal; In addition to a nodular lesion in the right pontocerebellar angle, involving the facial and vestibulocochlear nerves (vestibular schwannoma). Audiometry showed bilateral deep sensorineural loss and normal imitaciometry. Vectoelectronystagmography showed bilateral vestibular arreflexia. We chose the drug treatment associated with vestibular rehabilitation and clinical follow-up of the tumor with magnetic resonance imaging. We draw attention to the fact that the two pathologies with important morbidities occurred in different ears.

**Conclusion:** Patients in whom the clinic presents typical, we can consider the simultaneous course of two pathologies, which then, should be investigated.

#### 6546. Analysis of patients submitted to surgical treatment for control of spontaneous epistaxe in a specialized Hospital de Curitiba

Felipe Steiner, Cássio Wassano Iwamoto, Guilherme Rocha Netto  
IPO - Hospital Paranaense de Otorrinolaringologia

**Introduction:** Epistaxis is a common complaint in the otolaryngology practice, and the main emergency for an otolaryngologist, its prevalence in the general population reaches 12%, where only 1% requires a surgical procedure.

**Objective:** To determine clinical parameters that may help to determine if the anterior ethmoidal artery should be approached in the first surgical time. Material and

**Methods:** This is a retrospective study, through the analysis of medical records of patients undergoing surgical treatment to control spontaneous epistaxis at the IPO Hospital.

**Results:** The majority of the sample was men, with a mean age of 58 years. Surgeries were performed under local anesthesia with sedation in 93% of the cases and the mean length of hospital stay was 6 hours and 44 minutes. Systemic Arterial Hypertension was the most common comorbidity. Patients in whom the anterior ethmoidal artery was cauterized presented, on average, 6 days between the first bleeding episode and the surgery, while the patients in whom aphasic sphenopalatine artery was treated presented 3.6 days. The success rate of surgery was 93.4%.

**Conclusion:** The surgical treatment of epistaxis presents a high success rate, a low rate of complications and can be performed under local anesthesia with sedation. In patients with intermittent epistaxis, beginning several days earlier and refractory to initial control measures, cauterization of the anterior ethmoidal artery is indicated in the first surgical time.

**Key words:** Epistaxis, Anterior ethmoidal artery, otorhinolaryngological surgical procedures.

#### 6550. Age profile of patients submitted to cochlear implants

Evandro Ramos Ribeiro de Oliveira, Gustavo de Alvarenga Coelho  
Guilhon Loures, Marcela Pires Andrade, Fernando Cesar Rodrigues  
de Souza, Isabella Werneck Barbosa de Carvalho, Leonardo Ramos  
Ribeiro de Oliveira  
Hospital Dr Evandro Ribeiro

**Introduction:** According to the Brazilian Institute of Geography and Statistics, 9.7 million Brazilians suffer from hearing impairment and most of them are elderly.

Children with hearing impairments treated early have receptive and expressive language index scores comparable to those with normal hearing and individuals with post-lingual hearing loss

present progressive deterioration of language proportional to the time of disability.

**Objective:** To evaluate the age profile of patients who underwent cochlear implant surgery at the Evandro Ribeiro Hospital between 2010 and 2016.

**Methodology:** Longitudinal historical cohort study analyzing the age of 168 patients implanted at the Evandro Ribeiro Hospital between 2010 and 2016 with profound sensorineural hearing loss.

**Results:** Patients were between the ages of 1 and 89, 8.9% between 1-4, 26.8% between 5-19, 25.6% between 20-40, 26.2% between 41-60, and 12.5% over 60.

**Discussion:** This study contrasts with the data of IBGE, since 51.8% of implanted patients were adults aged 20-60 and only 12.5% were elderly.

It was noted the prevalence of the 5-19 age group and that only 8.9% of patients belonged to the 1-4 age group, demonstrating that there is a late diagnosis in this group.

**Conclusion:** Most implanted patients were between 5-19 years old. More than half of the sample was between 20-60 and only 8.9% were 1-4, highlighting the lack of dynamism of the health system to diagnose patients at an early stage. The elderly who were implanted totaled 12.5% of patients, which does not reflect the Brazilian statistics.

**Key words:** cochlear implant, hearing loss, age group.

#### 6573. Comparative study among four common cutaneous allergic tests in the diagnosis of rhinitis allergic

Ana Lívia Muniz da Silva, Renata Vecentin Becker, Sergio Fabricio Maniglia, Flávio Massao Mizoguchi, Samuel Neiva Almino  
IPO - Hospital Paranaense de Otorrinolaringologia

**Introduction:** Skin tests are based on re-exposure to a given antigen that causes signs of hypersensitivity. They are effective diagnostic methods and to be applicable it is important that they have high sensitivity, specificity, and generate little or no discomfort to the patient. The "prick-test" is the most commonly used and has been increasingly improved.

**Objectives:** To evaluate four different types of skin tests, evaluating sensitivity, specificity, false positives and negatives, variability of response (papule) and pain evaluation.

**Methods:** An analytical and transversal study with a population of 60 patients.

**Results:** after the exclusion criteria, the sample was 59 patients and 1888 punctures. The sensitivity was 100% for ALK Lancet®; 57.6% for the ALKO® Puncture; 100% for Multi-Test® II; 98.3% for Duotip® II. All presented 100% specificity. The intraclass correlation coefficients were 57.6% for ALK Lancet®, 48.5% for ALKO® Puncture; 59.9% for Multi-Test® II and 73.4% for Duotip® II.

**Conclusions:** all tests obtained excellent specificity; The ALKO® punch was the only test that did not show good sensitivity; Duotip® II was the device with the highest intraclass correlation; The ALKO® Puncture (isolated device) presented the lowest mean pain in the notes of the visual analog scale, with statistical significance. Multi-Test® II (multiple device), ALK Lancet® and Duotip® II (isolated devices) had no statistically significant difference between their means for pain scores.

**Key words:** allergic rhinitis, puncture test, prick-test.

#### 6593. Laryngeal tuberculosis an interesting report

Rafael Soares Leonel de Nazaré, Sarah Santos Nascimento, Bianca Mendonça de Almeida, Cyro Lopes dos Santos, Lucas de Abreu Lima Thomé da Silva, Ana Cristina da Costa Martins  
Pontifícia Universidade Católica do Rio de Janeiro Septo Serviço Especializado em Prevenção e Tratamento Otorrinolaringológico

**Introduction:** Laryngeal tuberculosis is usually secondary to pulmonary tuberculosis and affects mainly immunocompromised patients with 20-30 years old with a preference for posterior larynx, which may reach the anterior part along the epiglottis. There are two theories of bacillus' dissemination: direct from the bronchial tree and hematogenic. Clinical course with cough, hoarseness, odynophagia and dysphagia being the main differential diagnosis of chronic laryngitis.

**Objective:** Report a case of chronic laryngitis with progressive evolution, that the final diagnosis was of laryngeal tuberculosis and the need for early diagnosis.

**Case Report:** Female, 24-year-old, non-smoker, beautician, with background history of pneumonia that evolved for 8 months without improvements after several antibiotics and corticosteroids with persistence of cough, odynophagia and dysphonia. Referred for clinical evaluation in a specialized service. Laryngoscopy: suggestive signs of chronic laryngitis. Chest radiography: left condensation image. Sputum: Mycobacterium tuberculosis positive. Initiated drug treatment with rifampicin, iSoniazid, pyrazinamide and ethambutol. After 3 months of treatment, maintained mild hoarseness and new laryngoscopy that showed improvements. Bronchofibroscopy: total left stenosis. Bronchial lavage: negative for Mycobacterium tuberculosis. Follow-up during 9 months of treatment until the absence of disease activity. However, it maintains speech therapy due to cicatricial fibrosis in vocal folds.

**Conclusion:** Due to the high extrapulmonary involvement, the diagnostic suspicion of laryngeal tuberculosis in patients with chronic laryngitis not responsive to conventional treatment is essential for successful cure and minimization of sequelae.

#### 6600. Middle-shell's giant mucocele: differential diagnosis for unilateral nasal obstruction

Thamiris Cristina Santos Lopes, Rosane Siciliano Machado, Wallace Nascimento de Souza, Patricia Bittencourt Barcia Barbeira, Sara Costa Gomes, Gabriela Oliveira Monteiro  
Hospital Central da Polícia Militar do Rio de Janeiro

**Introduction:** Mucoceles of the paranasal sinuses are cystic lesions of epithelial lining with mucoid content. They have slow growth and bone resorption characteristics.

**Objective:** To report a case of giant mucus in the middle turbinate.

**Case Report:** V.S. A., 15 years old, male, complaining of long term progressive nasal obstruction, mainly left. Anterior rhinoscopy had a smooth, well-defined lesion occupying the entire left nasal fossa and laterally rejecting the lower left cornet. A tomography of the paranasal sinuses was required, which revealed tissue with soft tissue density and peripheral calcification, inside the left nasal fossa, occupying the middle and upper meatus, extending to the ethmoidal labyrinth and ipsilateral frontal sinus. The lesion caused lateral bulging of the medial wall of the left orbit, with signs of bone remodeling. Magnetic resonance imaging of the paranasal sinuses was requested to stage the extension of the disease and surgery was indicated. During the surgical procedure, an incision was made in the lesion with drainage of 30 ml of thick purulent secretion and it was identified that it originated from the left middle turbinate. The histopathological report demonstrated mild chronic inflammation, favoring the diagnosis of mucocele.

**Conclusion:** On a patient with unilateral progressive nasal obstruction, mucocele should be considered. The middle-shell mucocele is often piocele. The middle bullous shell may block the ostium and predisposes to mucocele development. Diagnosis as soon as possible is important to avoid lesion expansion, with probable complications.

#### 6609. Necrotizing external otitis: conduction of ten cases in an otorhinolaryngology service from northwestern of São paulo state

Ana Paula Giusti de Campos, Maury de Oliveira Faria Junior, Mayara Moreira de Deus, Thainá Soares Miranda Silva  
Faculdade de Medicina de São José do Rio Preto

**Introduction:** Necrotizing external otitis is an uncommon and potentially lethal infection with a physiopathogenic mechanism that is not fully understood, mainly affecting elderly diabetics.

**Objectives:** Analyze the epidemiology, diagnostic approach and evolution of patients with necrotizing external otitis, associated to conduction forms and their singularities.

**Methods:** Retrospective and descriptive analysis of medical records, from 2013 to 2017. Epidemiological, clinical, laboratory,

surgical and imaging data were collected. The data were compared with each other and with the literature.

**Results:** Data were collected from 10 patients diagnosed

with necrotizing external otitis, 70% male, with a mean age of 68 years. All were diabetic and complained of severe otalgia associated with unilateral otorrhea. Three patients presented facial palsy at the initial evaluation and one case evolved with the same one after hospitalization. Nine presented granulomatous lesions in the external auditory canal, eight of which were biopsied and compatible with an inflammatory process with granulation tissue. Eight were positive for *Pseudomonas aeruginosa* and one for multiresistant *Staphylococcus epidermidis*. In all, an intravenous and topical antibiotic was started for at least 21 days, and a mastoid computed tomography was performed. Nine patients underwent scintigraphy with Technique-99. Six patients underwent surgical procedure due to unsatisfactory clinical evolution. In three patients, there were more than three cranial pairs. Two patients died due to illness, one of them with a cranial base complication.

**Conclusion:** Despite the clinical similarity between cases, the evolution of necrotizing external otitis is unpredictable and may be lethal despite the strict clinical hospital segment.

#### 6616. The mouth breathing syndrome on the recurrence of upper respiratory tract infections and sleep quality in children at the bettina ferro de souza university hospital, belém pará

Ana Larisse Gondim Barbosa, Angélica Cristina Pezzin Palheta, Thamires de Castro Navegantes, Louise Silva e Silva Vilas Boas, Ceres Larissa Barbosa de Oliveira, Beatriz Helena Fernandes Fagundes  
Hospital Universitário Bettina Ferro de Souza - Universidade Federal do Pará

**Introduction:** The Mouth Breathing Syndrome occurs when obstructive or functional factors obstruct the nasal breathing. The nasal breathing is responsible for filtration, humidification and heating of the air, sufficiently oxygenating the brain and allowing a harmonious sleep. In the mouth breathing such mechanisms are compromised, thus the mouth breather becomes more susceptible to infections and sleep disorders, reverberating on child behavior. Objectives To verify the profile of patients with Mouth Breathing Syndrome according to clinical findings of infection and sleep impairment.

**Method:** A prospective, cross-sectional and observational study was conducted, with 74 children between 1-12 years with Mouth Breathing Syndrome diagnosis at a university hospital (Otorhinolaryngology department), from June 2016 to April 2017. A questionnaire with 30 statements and clinical examination were performed. After the data obtainment, a descriptive analysis was made, presenting data in percentage.

**Results:** From the 74 children participants in the study, 40 (55%) were male and 32 (44%) were female. 52 (72%) reported sore throats; 59 (81%) frequent colds or flu; 46 (63%) apnea intervals with short awakenings at night; 59 (81%) restless sleep; 35 (48%) morning headache; 42 (58%) irritability and 35 (48%) learning deficits.

**Conclusion:** Oral breathing, compromising the nasal physiological cycle, favors recurrent infections of the upper respiratory tract. It also causes impairment of sleep quality, which leads the child to agitated and aggressive behavior and attention and learning disorders. Thus, recurrences of upper respiratory tract infections and sleep quality impairment in oral breathing children are observed.

**Key words:** mouth breathing, learning and sleep.

#### 6635. Etiology of laryngeal paralysis

Antonio Jose Assis Xavier de Souza Pinto, Francisco Sales de Almeida, Eduardo Poletti Camara, Nadimila de Fátima Oliveira, Érica Pinoti Esteves, Herbert Rodarte de Paula, Ana Laura Silva Oliveira  
Universidade José do Rosário Velano - Unifenas - Alfenas

**Introduction:** Laryngeal paralysis may be secondary symptoms of other pathologies. They may originate from central or peripheral nervous system pathologies, mechanical trauma of the neck, head and thorax. They can also originate from surgical causes, infectious and inflammatory processes; May be secondary symptoms of varied syndromes, intoxications, psychogenic, idiopathic and iatrogenic causes.

**Objectives:** Evaluate the different etiologies of laryngeal paralysis, to compare them with current literature, showing the importance of knowledge of these conditions.

**Data Synthesis:** Laryngeal paralysis has known causes and originates in central nervous system pathologies, neck and mediastinal tumors, aneurysms, cardiac hypertrophy, inflammatory and infectious processes, idiopathic and iatrogenic factors (Pinho & Pontes, 1991). Traumatic causes, surgical causes, lead poisoning, eating disorders, psychological causes and a diverse range of already classified syndromes, and others to be defined (Hungary, 1986) can be found.

**Conclusion:** Throughout the discussion, we could observe that Laryngeal Palsy can have causes of the best known, as a result of postoperative, infection situations, and others, even less improbable causes.

**Key words:** Laryngeal paralysis, trauma, central nervous system.

#### 6637. Cervical spine fusion and its relationship with a klippel-feil syndrome.

Eduardo Poletti Camara, Francisco Sales de Almeida, Antonio Jose Assis Xavier de Souza Pinto, Ana Laura Silva Oliveira, Benedito Darci de Camargo Neto, Érica Pinoti Esteves, Haruana Carvalho Amaral  
Universidade José do Rosário Vellano - Unifenas

**Introduction:** Klippel-Feil syndrome is a disease characterized by abnormal fusion of two or more cervical vertebrae. Spinal fusion is present from birth. Three main features result from this vertebral fusion: a short neck, a resulting appearance of a bottomless line of the head and a limited range of non-neck movement.

**Objectives:** To present an anatomical finding corresponding to the aforementioned syndrome and its clinical correlations. The composition of this article resulted from research in the MEDLINE, SciELO and PubMed databases.

**Data Synthesis:** A Klippel-Feil syndrome is estimated in 1 in 40,000 to 42,000 newborns worldwide. Females seem to be affected a little more often than males. When a Klippel-Feil syndrome is caused by GDF6 or GDF3 genes, it is inherited in an autosomal dominant pattern, which means that a copy of the altered gene in each cell is sufficient to cause the disorder.

**Conclusion:** Symptoms may have other skeletal defects, including arms or legs of uneven length, which may result in misalignment of the hips or knees. Also, as shoulder blades can be undeveloped so that they are emitted abnormally high in the back, a condition called Sprengel deformity. Rarely, structural brain abnormalities or a type of congenital defect that occurs during brain and spinal cord development may occur in people with Klippel-Feil syndrome.

**Key words:** Klippel-Feil, Spine, Anatomy.

#### 6638. Craniometry evaluation in an abnormal skull

Antonio Jose Assis Xavier de Souza Pinto, Rafael José Ferri Oliveira, Haruana Carvalho Amaral, João Pedro Cachero Lino, Benedito Darci de Camargo Neto, Eduardo Poletti Camara, Francisco Sales de Almeida  
Universidade José do Rosário Vellano - Unifenas - Alfenas

**Introduction:** The skull may present additional ossification centers, small supernumerary bones, called suture bones that occur along the sutures.

**Objectives:** Evaluate the different anatomical presentations of the anomalous skull, comparing them with the literature, showing the importance of knowledge for the medical professional.

**Resumed report:** The object of the study, presented in good handling conditions, is fully dry and treated accordingly to the local procedure. Full cranial measurements were carried out, especially the measurement of the circumference, anteroposterior and latero-lateral diameter, using an analog caliper rule, Castro Viejo compass, magnetic resonance and tape-measure. We found a measurement of 60.2 cm for the circumference, 27.4 cm for the latero-lateral diameter and 33.0 cm for the anteroposterior diameter. Furthermore, there were 60 wormian bones in the skull and a hole that, probably, indicated the

absence of one more suture bone. The complete measures follow in the table below. By Broca's technique we found a cranial volume of 2,630 liters (L).

**Conclusion:** Given the fact, it is concluded that the skull is an anatomical variation rarely found, both by the size, measurements, diameters, circumference and the number of sutural bones. Exacerbated volume of cranium, in the first instance, is not caused by hydrocephalus because the impress absence of the encephalic sulcus and gyrus along the inside of the frontal and parietal bones, despite the presented macrocephaly. The knowledge of anatomical points and sutures is necessary for the knowledge of any anatomist and medical professional.

**Key words:** skull, bones, medical professional.

#### 6639. Calcification in the thyroid cartilage and its clinical and surgical aspects

Eduardo Poletti Camara, Francisco Sales de Almeida, Antonio Jose Assis Xavier de Souza Pinto, Benedito Darci de Camargo Neto, Érica Pinoti Esteves, Laryssa Aparecida Oliveira Lomonaco, Katia Mara Tavares  
Universidade José do Rosário Vellano - Unifenas

**Introduction:** Ossification and calcification of the larynx have been extensively investigated. There is an ossification as part of the aging process because premature cartilage calcification in both the larynx and trachea is presented as a rarity and may or may not be associated with a pathological condition. It is estimated that not 65th year, cartilage can be completely converted into bone.

**Objectives:** To report the anatomical finding of ossification of the thyroid cartilage and its clinical and surgical implications. The composition of this article resulted from the MEDLINE, SciELO and PubMed databases.

**Data Synthesis:** The thyroid cartilage consists of two hyaline cartilage slides that are in the non-V-line media line. A back edge of each blade is pulled up into an upper horn and down into a lower horn. On the outer surface of each lamina has an oblique line for a fixation of the sternotireoid. Many authors have studied a pneumonia cartilage and its ossification process using radiographic characteristics to estimate the age of the individuals. What is most important for assessing the quality of a more accurate assessment of thyroid cartilage ossification.

**Conclusion:** From a detailed analysis of the anatomical part, it is concluded that there is a previous ossification of the thyroid cartilage. Being, the knowledge of the anatomical variation useful to interpret different clinical and surgical conditions.

**Key words:** Thyroid, Calcification, Cartilage.

#### 6641. Vascular carotid reconstruction

Antonio Jose Assis Xavier de Souza Pinto, Francisco Sales de Almeida, Nadimila de Fátima Oliveira, Katia Mara Tavares, Laryssa Aparecida Oliveira Lomonaco, Raira Vilela Muniz, Emerson Silva Rabelo  
Universidade José do Rosário Vellano - Unifenas - Alfenas

**Introduction:** Irrigation of the head and neck originates from the common carotid arteries. Its partial or total obstruction on one side causes severe neurological sequelae, from paralysis of one half of the body, as well as difficulties in the elaboration of words among others.

**Objectives:** This article was the result of researches in the MEDLINE, SciELO and PubMed databases, citing authors according to their importance to the subject, evidencing the importance of the knowledge for the carotid reconstruction.

**Data Synthesis:** The reconstruction of the carotid artery can be done with autologous grafts, the saphenous vein being the most used, or biomaterials. Myocutaneous flaps of the pectoralis muscle can be used in a few cases to reconstruct the pharynx, with no intention to protect the vascular graft. The materials used to make the patches are the great saphenous vein, the bovine pericardium, the synthetic grafts and the cervical grafts. The complications related to the various types of patches are basically the same: bleeding, infection, thrombosis, embolization, restenosis, formation of pseudoaneurysms

and rupture, this being an important complication associated with a high rate of morbidity and mortality.

**Conclusion:** Arterial ligation is a valid option for situations with difficult internal carotid artery control and in those with massive bleeding, often in patients with multiple penetrating traumas, with indication for damage control in the cervical region.

**Key words:** Irrigation of the head and neck, neurological sequelae, carotid artery.

#### 6645. Correction of jugular vessel aneurysm

Antonio Jose Assis Xavier de Souza Pinto, Francisco Sales de Almeida, Nadimila de Fátima Oliveira, Eduardo Poletti Camara, Raira Vilela Muniz, Laryssa Aparecida Oliveira Lomonaco, Rafael José Ferri Oliveira

Universidade José do Rosário Velano - Unifenas - Alfenas

**Introduction:** Venous aneurysms are rare, affecting people of various ages and sexes. Its etiology remains uncertain. Although computed tomography, phlebography and magnetic resonance help the precise diagnosis, the gold standard for the diagnostic method of venous aneurysm is still ultrasound with duplex color image flow.

**Objectives:** Evaluate the importance of the correction of jugular aneurysms, their prevalence, to study the most common techniques and their benefits to the patients.

**Data Synthesis:** Venous aneurysms can affect neonates, children, adolescents, adults and the elderly and may develop in any part of the vascular system. Venous aneurysms may present in various forms, such as fusiform or saccular. This distinction is important for the surgical strategy. Congenital vein aneurysm is an anomaly of the venous wall development, which occurs as a consequence of smooth muscle hypoplasia, leading to elastic deficiency of the venous wall. The etiology of the aneurysm was described as degeneration of the venous wall, resulting in thinning of the elastic and muscular layers of the vein wall.

**Conclusion:** Although venous aneurysm is considered a relatively simple case, surgical treatment is indicated in most cases, especially when symptomatic, disfiguring or progressive.

**Key words:** Venous aneurysms, phlebography, jugular aneurysms.

#### 6656. Difficulty of management in sudden deafness associated with dizziness: case report

Julio Cezar Passos Raminho, Rafael Leite Freitas, Teófilo Dorneles Claro dos Santos Silva, Marlon Ferreira Santos, Hugo Melo de Oliveira, Evaldo da Silva Barbosa Junior

Clinica Othos

**Introduction:** Sudden deafness is abrupt hearing loss, usually unilateral, with no well-defined etiological factor. The differential diagnosis includes some others diseases, such as infectious, hematological, neurological and most likely, the vestibular schwannoma.

**Objectives:** To report the therapeutic difficulties through a case of sudden deafness associated with dizziness and tinnitus.

**Resumed report:** Patient 36 years old, 70 kg, male, musician. Admitted to an otorhinolaryngological unit complaining that 4 days after a concert woke up with accusation in the left ear, accompanied by rotatory dizziness worse to the movement of the head to the left, besides episodes of nausea and vomiting and non-pulsatile tinnitus in the left ear of the whistle type. Otoscopy and radiological exams without alterations, thus excluding the main differential diagnoses. Patient was hospitalized for initiation of drug therapy and audiometric screening. He has been using Ceftriaxone, Valacyclovir, Pentoxifylline, Ginkgo Biloba Extract and symptomatic remedies. Fifteen days after hospitalization there was a slight improvement in the audiometric standard and the clinical picture. Patient was discharged through a new evaluation of otolaryngology and phonoaudiology. There was a need to use a hearing aid for unilateral deafness and earplugs for work activities. Patient was followed up in an outpatient setting, with no further changes.

**Conclusion:** The uncertainty of the etiopathogenesis and the great controversy over the treatment of the affected patients

represent the difficult decision making through sudden deafness. Therefore, it is essential to stimulate further research in this area.

**Key words:** management; rotatory dizziness; sudden deafness.

#### 6657. Choanal atresia: approach with diode laser

Mariana Barroso Scaldini, Lauriane dos Santos Martins, Thaís Brunheroto, Laila Mancilha Daghestanli, Camila Pereira de Moraes, Myrian Marajo Dal Secchi

Irmãos da Santa Casa de Misericórdia de Santos

**Introduction:** Congenital choanal atresia is a rare abnormality characterized by unilateral or bilateral patency of the posterior end of the nasal cavity. The incidence is higher in females and unilateral. There are several surgical techniques for correction of the atresia, aiming to provide adequate functional permeability and a low rate of restenosis.

**Objective:** to describe a case of unilateral choanal atresia and surgical treatment with diode laser.

**Resumed report:** male, 6 years old, with complaint of rhinorrhea and unilateral nasal obstruction since birth. The computed tomography of the paranasal sinuses showing bony-membranous choanal atresia and nasal fossa veil on the right. Surgical treatment was performed at 6 years of age, through transnasal access with 980nm diode laser and 600μm fiber, without the use of flaps or molds. After surgery, the patient achieved improvement of the symptoms and maintained it in the following 6 months.

**Conclusion:** the authors presented a case of unilateral choanal atresia in a child. Due to the high incidence of restenosis of atretic plaque, an evaluation to define the best surgical treatment is necessary. In the literature, we observed the use of laser with flaps. Our case is distinguished by the use of laser without the placement of molds or flaps. We opted for this technique prioritizing wide aperture of the atresia plate and the photodynamic characteristics of the laser, with less surgical risk and length of surgery. After 6 months postoperatively, the choanal opening remained without restenosis.

**Key words:** choanal atresia, endoscopic surgery, diode laser, restenosis.

#### 6674. Cutaneous leishmaniasis: case report

Walter dos Reis Siqueira Junior, Wilson Benini Guérino, Luiza Anunciação França, Gilberto Francisco Ferreira Filho, Tarssius Capelo Candido, Soraya Elias Russo, Pedro Henrique Almeida Nascimento Hospital Universitário UFJF

**Introduction:** American Cutaneous Leishmaniasis is an infectious, non-contagious disease caused by Leishmania protozoa. The predominant clinical form is cutaneous(95%), followed by mucosal(3%-5%). It may affect the nasal region, larynx, pharynx and oral cavity, causing cough, hoarseness, oral ulcers and septal destruction.

**Objective:** to report a clinical case of cutaneous leishmaniasis with involvement of laryngeal, oral and nasal septal mucosal.

**Resumed report:** DAS, female, 63 years old, referred to otorhinolaryngology due to severe dysphagia for 14 days along with adynamia and weight loss. During the physical examination, a large septal perforation reported as long-standing and previously investigated by means of biopsy, laboratory and montenegro tests and swab collections without conclusive diagnosis, and a granulomatous lesion on the soft palate, oropharynx, and amygdala. The patient had neither cutaneous lesion nor lymph node enlargement. Videolaryngoscopy revealed an extensive granulomatous lesion affecting the supraglottic region. Due to the patient's clinical condition, we chose hospital admission and tube feeding. Immunohistochemistry was performed to confirm the diagnosis of American tegumentary leishmaniasis. The patient was treated with amphotericin B, evolving with improvement of the clinical condition and return of oral feeding.

**Conclusion:** The present case becomes important to alert the intensity of the symptoms of American tegumentary leishmaniasis of laryngeal and pharyngeal involvement as a differential diagnosis of

dysphagia. In addition, it demonstrates in practice the need for broad investigation and the association of tests when there is a diagnosis of relevant presumption.

**Key words:** dysphagia, leishmaniasis, nasal septal perforation.

#### 6685. Nutritional Disorders in Mouth Breathing Children

Mariana Krawczun Maruoka, Oscar Orlando Araya Fernandez, Rafael Krawczun Maruoka, Ricardo Mastrangi Ignácio Ribeiro, Catharina Gaspar Caraça  
Universidade São Francisco

**Introduction:** Mouth Breathing is defined as "habitual breathing through the mouth, when it should be performed through the nose". Several factors can alter the respiratory pattern of the nose, causing the child to adopt an oral or mixed breathing pattern. So it causes the mouth breathing syndrome that reflects morphofunctional, alimentary and behavioral changes.

**Objectives:** Through a systematic literature's review, this project aims to analyze how oral breathing can generate nutritional disorders causing changes in the child's body, interfering in the development of weight-stature.

**Data Synthesis:** Oral breathing may influence the amount of food ingested, as well as the preference for certain food consistencies in the diet. The dysynchrony between breathing and deglutition leads the child to associate meals with suffocation. This way we have children who prefer not to eat or who prefer liquid or soft food. In addition, smell and taste also change in an oral respirator, which can lead to inappetence and decreased food intake. In contrast, there are children who perform a faster chewing, it leads to an increase in food intake, causing obesity. There is also the hypothesis that the sleep disorder caused by hypoxemia leads to a decrease in the growth hormone secretion.

**Conclusion:** It's agreed that an individual and personalized evaluation of each child is required. The treatment of the Mouth Respiratory Syndrome is fundamental to the prevention of future nutritional disorders, as well as the promotion of a higher quality of life for the children development.

#### 6696. Ethmoid mucocele with intraorbital extension: case report

Hugo Melo de Oliveira, Rafael Leite Freitas, Julio Cesar Passos Raminho, Teófilo Dorneles Claro dos Santos Silva, Marlon Ferreira Santos, Evaldo da Silva Barbosa Junior, Felipe Coelho Martins  
Clínica Othos

**Introduction:** Mucocele is a rare condition. It is a lesion with benign, cystic, expansive features, limited by the epithelial lining itself, resulting from the accumulation of mucous secretion within a blocked cavity and, eventually, may compromise adjacent noble structures such as the orbit and the intracranial cavity.

**Objectives:** To show the clinical history and their conduct to a patient with ethmoid mucocele.

**Resumed report:** Female patient, 71 years, demand for municipal health department due to large expansive lesion of cystic aspect in the left nasal cavity for five years, accompanied by obstruction, anterior and posterior drip, pain in the left eyepiece and slimming region. A tomography of the skull and sinuses was accomplished, where there was a massive oval-shaped expansive formation with soft-tissue density, without enhancement after intravenous contrast administration, located in the left nasal fossa and promoting marked compression of adjacent structures, such as above and to the side and fore displacement of the orbit on this side with mild exophthalmos. Nasal endoscopic surgery was performed fifteen days after the first care.

**Conclusion:** The patient presented a favorable prognosis, since the diagnosis and the conduct were done quickly for the case. The mucocele presents a slow growth and for this reason, in many cases, an injury can reach an orbit and other adjacent structures before the patients in search of relief, highlighting the importance of the previous diagnosis.

**Key words:** ethmoid mucocele; intraorbital; surgery.

#### 6697. Concentration of hyaluronic acid in female human vocal folds with Reinke's edema

Cristiana Vanderlei de Melo, Elsa Yoko Kobayashi, João Roberto Maciel Martins, Gustavo Polacow Korn, Sung Woo Park, Noemi Grigoletto de Biase  
UNIFESP

**Introduction:** Affections in lamina propria (LP) could be impact the biomechanics of wave motion in vocal fold (VF) and affect vocal production. In Reinke's Edema (RE) there is an increase in viscosity and tissue volume, biomechanical properties controlled mainly by hyaluronic acid (HA) in VF. Thus, we suspect that the edema of this pathology is due to an increase in the concentration of HA.

**Objective:** To compare and evaluate the concentration of HA in human VF cover of both women with RE and cadavers.

**Study Design:** Experimental study.

**Method:** For this study a HA binding protein isolated from bovine nasal cartilage was used. Plates coated with biotin-conjugated binding protein and streptavidin-europium conjugate were sequentially incubated with 18 samples RE and 11 from female VF cover of cadavers. After the release of europium from streptavidin in an enhancement solution, final fluorescence was measured in a fluorometer.

**Results:** Eighteen female patients with RE were evaluated with mean age of 57,62 years. The control group consisted of 11 VF from eleven female cadavers (mean age 55,37 years). HA concentration in the vocal fold with RE (mean HA concentration 9208,81 µg/g) is significantly higher than in the control group (mean HA concentration 982,55 µg/g). There was no statistical difference between the concentration of HA in the samples with RE in relation to age, grade of edema or smoking burden.

**Conclusion:** The VF affected by RE present a higher concentration of HA in the cover in relation to the VF with no edema.

#### 6700. Vocal cord paralysis after chemotherapy - case report

Camila Bae Uneda, Lívia Marge de Aquino Guedes, Juliana Cagliari Linhares Barreto, Larissa Odilia Costa Binoti, Bernardo Relvas Lucas, Luiz Felipe Lira de Moraes, Daniella Leitao Mendes  
Hospital Naval Marcílio Dias

Phonation is one of the most important tools for human interaction with the environment through the expression of ideas and thoughts. The proper functioning of the vocal system requires precise management and perfect harmony between the central nervous system and the effector organ. It is well known that paralysis of the vocal cords may occur due to neuropathies, which can be caused by toxic lesions induced by drugs. The following case suggests the association between chemotherapy and vocal cord paralysis. It is about a female 64 years old patient, ex-smoker and in treatment of a right lung cancer with chemotherapy with carboplatin and paclitaxel. After the third cycle of the medication, the patient presented complaint of dysphonia. Videolaryngoscopy showed a reduction of vocal cords movement. After the sixth and last cycle, the patient returned complaining that her dysphonia was worse and she presented a breathy voice. Another videolaryngoscopy exam was performed and a left vocal cord paralysis was detected. This case reinforces the importance of increasing the number of studies regarding the side effects of the chemotherapy medications. It is necessary to better establish the link with these drugs to vocal cord paralysis and other injuries in intention to prevent complications and to guarantee a better quality of life for these patients who, in general, are already too fragile by their underlying disease.

#### 6709. Indolent fungal sinusitis in immunocompetent patient - case report

Janaína Neto Machado, Camila Bastos Xavier Vassimon Silva, Pedro Dantas Lodi de Araujo, Nathalia de Paula Doyle Maia, Carlos Augusto Santos Furtado Pereira de Souza, Hana Caroline Morais Higa, Luiza Zanette de Carvalho  
Hospital Central da Aeronáutica

**Introduction:** Fungal sinusitis is a diagnostic challenge in clinical practice. The most currently accepted classification divides it into: acute/fulminant; chronic/indolent; fungal ball and allergic fungal sinusitis.

**Objectives:** To report a case of chronic idiopathic fungal sinusitis, to discuss the diagnostic challenge and the importance of this entity as a differential diagnosis.

**Resumed report:** A 47-years-old woman, no comorbidities, presented a facial pain and chronic purulent and fetid rhinorrhea in the right nasal fossa. Computed tomography showed right maxillary sinus filled with material of heterogeneous density and bone erosion. Sinus endoscopic surgery was performed, with enlarged antrostomy and removal of thick gray-type mucus type of the maxillary sinus. Histopathological examination and culture presented, respectively, cellular infiltrate typical of chronic inflammation and negativity to fungi. It evolved in the late postoperative period with relapse of purulent secretion with greenish lumps and facial pain even after clinical treatment. New computed tomography revealed thickening of the mucous lining of the maxillary sinus on the right and a new surgical approach was indicated.

**Conclusion:** The clinical presentation of fungal sinusitis is nonspecific. The characteristic of a chronic disease with macroscopically observed fungal invasion, despite a negative culture and patient without comorbidities, led to the classification of this condition as indolent fungal sinusitis. In this case, the treatment includes surgical debridement associated with antifungals. Even though adequate treatment was done, the patient evolved with recurrence of the condition, showing the need to consider other differential diagnoses and associated treatments.

**Key words:** fungal sinusitis; maxillary sinusitis; fungi.

#### 6722. A Rare Differential Diagnosis for Chronic Rhinosinusitis: The Inflammatory Pseudotumor of Maxillary Sinus

Renan Vieira de Brito, Lauren Cavalheiro Amancio Cirto, Vinícius Batalini Rodrigues, Luciano Resende Ferreira  
Centro Universitário das Faculdades Associadas de Ensino - UNIFAE

**Introduction:** Inflammatory pseudotumor is defined as a histological diagnosis presented as an uncommon lesion, locally aggressive, that act as a clinical and radiologic malignancy mimicker. It has unknown cause, without systemic diseases associated. This pathology is commonly found in lung, airways and orbit, being rare when located in maxillary sinus. The data obtained was from the National Institute of Social Security of a patient who requested sick leave.

**Objectives:** The objective was to demonstrate a rare paranasal sinus pathology that can be a differential diagnosis of common diseases, such as rhinosinusitis; or simulate a malignancy.

**Resumed report:** KSCS, female, 23 years-old, with one-month history of seizure's episode at work. The patient reported severe headaches, accompanied by pain in the left maxillary sinus, being treated as a rhinosinusitis. The cranial CT revealed expansive formation of left maxillary sinus, characterized by irregular heterogenic density, destroying bone structures, with bilateral chronic mastoiditis. Anatomopathological exam of core biopsy of maxillary sinus demonstrated connective tissue with lymphoplasmocytic infiltrate, frequent eosinophils and without atypia; the IgG4/IgG ratio was 1/20; this result, associated with immunohistochemical profile qualifies this lesion as an inflammatory pseudotumor.

**Conclusion:** The classification of inflammatory pseudotumor is controversial as a true tumor or a reactive process. Nevertheless, the treatment must be followed as a benign process, unless it can show marked destruction and frequent recurrences. The challenge of diagnosis is the aggressive aspect of this lesion, and immunohistochemistry is important for a precise diagnosis. Due to the unpredictable behavior, a careful follow-up is mandatory.

**Key words:** Inflammatory pseudotumor, maxillary sinus, rhinosinusitis, immunohistochemistry.

#### 6723. Update in pathophysiology of tinnitus

Osmar Clayton Person, David Roberto Claro, Thiago Ribeiro de Almeida, Thiago Xavier de Barros Correia, Isabela Tavares Ribeiro, Fernando Veiga Angélico Júnior  
UNISA

**Introduction:** Tinnitus is an otoneurological symptom very prevalent in the population, related to several diseases and

considered difficult to treat. Aim: To review, in a current perspective, the pathophysiology of tinnitus.

**Methods:** A review of the literature was done by searching the databases MEDLINE-PUBMED (1966-2017) and LILACS (1982-2017), concerning the pathophysiology of tinnitus. There was no language restriction and publication year.

**Results:** 2600 articles were found, of which 50 were used in the review. Eleven pathophysiological mechanisms associated with tinnitus, many of which are present simultaneously in the same patient, are described.

**Conclusion:** The pathophysiology of tinnitus is complex and not fully known and it is considered the basis for effective therapeutic strategies in the future.

**Key words:** tinnitus; physiopathology of tinnitus; physiology of tinnitus.

#### 6729. Use of visually enhanced vestibulo-ocular reflex (VVOR) as a diagnostic tool for diagnosis of coexistent vestibular and cerebellar pathologies

Jocyane de Souza Andrade, Renato Cal, Fabrício Leocadio Rodrigues de Sousa, Cassia Maria Oliveira, Ana Larisse Gondim Barbosa  
Hospital Bettina Ferro de Souza- Universidade Federal do Pará

**Introduction:** Several pathologies may present coexisting vestibular and cerebellar dysfunctions such as spinocerebellar ataxias of type 3 and 6, Friedreich's ataxia and CANVAS syndrome (cerebellar ataxia, neuropathy and bilateral vestibular areflexia). These conditions are always challenging to diagnose and having the possibility of using a tool to help this diagnosis would be very useful. Recently the device of video head impulse test (vHIT) ICS Impulse® (Otometrics®) was added with a module of the Visually Enhanced Vestibulo-ocular Reflex (VVOR). Alterations in this test are evidence of pathologies affecting the cerebellar and vestibular system simultaneously. Objectives Describe two cases with clinical features of CANVAS having the diagnosis confirmation, among other methods, by the alterations in the VVOR test.

**Resumed report:** Two patients (male, 74 years and female, 73 years) were assessed with progressive dizziness and instability for about one year, without any hearing complaints. Neurological examination of the two cases was similar: gait ataxia, alterations in the Romberg test with proprioceptive disturbance; peripheral neuropathy in lower limbs; altered diadochokinesia and in the "index-naso" test and bilateral vestibular areflexia documented in the vHIT. The evaluation of the VVOR in both cases showed alterations in the relations of the traces (head-eyes), with the presence of multiple corrective saccades, confirming the coexistence of cerebellar and bilateral vestibular pathology.

**Conclusion:** Alterations in the VVOR test can be easily identified with video-oculography, which is a very useful tool for diagnosis of coexisting cerebellar and vestibular syndromes.

**Key words:** Cerebellar ataxia, Pathologies of the vestibulocochlear nerve, vestibulo-ocular reflex.

#### 6730. Palatine Submucosal Hidden Fissure: An Interesting Case Report

Thais Ariane Turra Picolo, Luana Alves Linhares, Sarah Santos Nascimento, Karla Mariana Santos Tassara, Carlos de Abreu Lima Thome da Silva, Ana Cristina da Costa Martins, Lucas de Abreu Lima Thomé da Silva  
Septo/PUC-RJ

**Introduction:** Cleft lip palate is a common facial congenital malformation in our setting. It occurs by opening or not closing the region of the lip and/or palate during the embryonic period, usually between the 4th and 12th weeks of intrauterine life. They can be classified into incisor pre-foramen, transforamens, incisor post-foramen and rare fissures (such as hidden submucosal fissure).

**Objective:** To report a case of rare cleft lip palate, incomplete incisor post-foramen, difficult to diagnose.

**Conclusion:** Hidden submucosal fissure is rare, such as the one presented in this clinical case. It is difficult to diagnose, since the

structures of the oral cavity are apparently intact, and the only sign is the hypernasal voice. In this way, the nasal voice without improvement with speech therapy should draw attention to this diagnosis.

**Case report** LVF, 2-years-old, underwent pediatric and otorhinolaryngological follow-up due to recurrent cases of otitis, bronchitis and hyperreactivity of the upper airways. At 5 years old, he began to experience symptoms of constant phlegm and hypernasal voice, that become worse after episodes of airway infection.

**Nasopharyngoscopy:** discretely enlarged pharyngeal tonsils and vocal fold edema. Oral corticosteroid therapy was performed, with a relative improvement of dysphonia. However, at the end of the medicine the symptoms returned. The patient was then referred to speech therapy, but there was no significant improvement in symptoms. A new nasopharyngoscopy was requested, in which a depression was visualized on the soft palate and covered with mucosa. Closing the diagnosis with cleft palate, post-foramen incisor, occult submucosa.

### 6732. Orbital endoscopic decompression in graves ophthalmopathy

Natália Barros de Melo, Nathalia Parrode Machado Barbosa, Leonardo Capita Glória Batista de Oliveira, Gustavo Subtil Magalhães Freire, André Luiz Lopes Sampaio, Rebeca Elevato Donadon, Matheus Alves Farah  
Hospital Universitário de Brasília

**Introduction:** Graves' Ophthalmopathy is an autoimmune disease characterized by deposition of antithyroglobulin immune complexes on the extra-ocular muscles. Orbital involvement occurs in about 50% of the patients with Graves' disease, but only 5 to 10% of these develop severe ophthalmopathy. Reduction of proptosis in Graves' disease ophthalmopathy can be achieved by various techniques. Endonasal assisted endoscopic decompression can be used alone or in combination with other techniques. The endoscopic orbital decompression technique is an alternative, with resection of the medial and inferior portion of the orbital limits requiring no cutaneous or gingival incisions.

**Objectives:** To report a case of endonasal orbital decompression in Graves' ophthalmopathy

**Resumed report:** A 47-year-old woman with Graves' ophthalmopathy diagnosed 3 years ago sought the Otorhinolaryngology service through referral from Ophthalmology to evaluate the possibility of orbital endoscopic decompression. She underwent such procedure through bilateral pansiunectomy and the removal of the medial and inferior wall of the orbit also bilaterally. It evolved with diplopia and strabismus, with spontaneous resolution in the first postoperative week. It maintains follow-up in the service, with significant exophthalmos improvement, without visual and nasal complaints.

**Conclusion:** This technique produces decompression comparable to that obtained by external techniques. In the past this procedure was carried out externally, but currently the orbital decompression may be performed through an endoscopic approach, a minimally invasive procedure, allowing the removal of the inferomedial all without external cuts.

**Key words:** orbital, decompression, endoscopic.

### 6733. Videoendoscopy of deglutition - Proposal of protocol of the Service of Speech and Hearing Therapy and Otorhinolaryngology of the University Hospital of the Federal University of Sergipe.

Carlos Alberto Franca Dantas Passos, Allisson Hora Sousa, Natália Cristina Gomes do Amaral, Brenda Carla Lima Araujo, Claudia Cristiane Alves da Costa, Ronaldo Carvalho Santos Júnior  
Universidade Federal de Sergipe

**Introduction:** Dysphagia involves anatomical and functional changes, and should be observed multidisciplinarily for diagnosis and treatment in a precise and reliable manner avoiding the potential consequences.

**Objectives:** To perform an endoscopy protocol for swallowing disorders of phonoaudiology and Otorhinolaryngology Department of HU-UFS.

**Method:** Videoendoscopy of deglutition started in October / 2016. We evaluated 25 patients. For the accomplishment of the examination are used equipment of conventional videoendoscopy, being the same one used in habitual examinations. For the evaluation of swallowing, 30 ml of yogurt and juice are used, in addition to biscuit and / or wafer, in a quantity and consistency (liquid, semi-liquid, pasty and solid) dyed blue dye and added food thickener, being offered spoon, Cup, straw or syringe. It starts with a speech-language pathology examination. An anatomical evaluation of the palatine veil, pharynx and larynx is performed: presence of salivary stasis in the pharynx, vocal fold paralysis, and sensitivity tests are observed during the examination. During consistency offerings are evaluated: oral cavity residue, posterior leakage, delayed swallowing, nasal regurgitation, stasis in the vallecula and in pyriform sinuses (mild (+), moderate (++) or severe (+++) were evaluated. In addition to laryngeal penetration or laryngotracheal aspiration. Phonoaudiology is fundamental in the diagnosis and evolution of the exam. The findings are classified into levels: 0 - normal, 1 - mild, 2 - moderate, 3 - severe.

**Conclusion:** For the success of videoendoscopy of swallowing it is important to multidisciplinarity between phonoaudiology and otorhinolaryngology before, during and post examination.

### 6734. Palatine Tonsils Lesions-Syphilis

Ana Carolina Silveira de Oliveira, Ana Clara Lemos Ramalho Bastos, Bruna Moura Lima, Eloisa Andreia Pansera Speranza, Brena Augusta Lemos de Oliveira, Ana Cristina da Costa Martins, Cristian Kaefer  
Universidade Estácio de Sá-Campus João Uchoa

Patient C.B.A.S., female, presented with odynophagia and history of recurrent infections in palatine tonsils, besides chronic rhinopathy in treatment and without improvement. She refers to use levofloxacin, without improvement of the condition and with subsequent appearance of diffuse skin rashes. The otorhinolaryngological exam showed a shallow ulcers on the upper pole of the left palatine tonsil with diffuse hyperemia in both tonsils. Rapid serological test for syphilis was requested, and the result was positive. Syphilis is a systemic infectious disease of chronic evolution, caused by *Treponema pallidum*. The transmission is mainly by sexual contact. As is characteristic of spirochetes, the bacterium is mobile and easily invades the submucosa through invisible microstructures in the mucosa. The natural course of the disease is divided into three stages: primary, characterized by the development of a painless chancre, secondary, related to the sanguineous dissemination of the bacterium, with systemic symptomatology, including exanthema; and tertiary which occurs years after primary infection, and may progress to neurosyphilis, cardiovascular syphilis and gummatous syphilis. With the exception of neurosyphilis, all forms of syphilis may manifest in the oral cavity. Therapy with Penicillin G Benzathine was initiated 2.4 million U/dose intramuscularly for three weeks. After one month of treatment, there was an improvement in VDRL, with titration decreasing to 1/64.

### 6736. Enophthalmia in otorhinolaryngology

Thaís Brunheroto, Laila Mancilha Daghastanli, Alexandre Wakil Burzichelli, Lauriane dos Santos Martins, Mariana Barroso Scaldini, Myrian Marajo Dal Secchi  
Irmandade Santa Casa de Misericórdia de Santos

**Introduction:** Silent sinus syndrome was described in 1994 by Soparkar et al. It presents spontaneous and asymptomatic enophthalmos from nasosinus point of view, but as a secondary sign to diseases of the maxillary sinus, which is thinned and with apparent ipsilateral hypoplasia. One of the aetiological theories would be obstruction of the meatal ostium complex with consequent hypoventilation of the maxillary sinus.

**Objective:** Attending the otorhinolaryngologist to an ophthalmological sign, which due to lack of early recognition may delay the treatment. Knowing to request the appropriate exams: paranasal sinus tomography, videonasofibroscopy and orbit RNM. Emphasize the surgical treatment that can be performed in two steps. Step 1: sinus approach. Step 2: approach the orbital floor. There are no reports in the literature of worsening after proper surgery.

**Resumed report:** patient, female, 25 years old, reported left orbit retraction a year ago, initially painless. He observed this change in photographs. He denied visual changes, rhinosinusal complaints or history of facial trauma. At the inspection, left eye asymmetry, lowering and enophthalmia were visualized. After confirmation with complementary exams the patient underwent surgical treatment with antrostomy, drainage of thick purulent secretion and lavage of the sinus with saline solution 0.9% and ciprofloxacin, and the second stage was not necessary. After a month, it was possible to observe a decrease in enophthalmos.

**Conclusion:** Enophthalmia may be the first sign evident in an otorhinolaryngologic disease of surgical treatment.

**Key words:** enophthalmos; Maxillary hypoplasia; Sinus syndrome.

#### 6740. Pemphigus Bullous-Oral and Cutaneous Lesions-

Ana Carolina Silveira de Oliveira, Letícia Barboza de Miranda, Géssica Pereira Gomes, Pedro Carrijo Abrahão, Júlia Guimarães Soffientini, Ana Cristina da Costa Martins, Danielle de Carvalho Dantas  
Universidade Estácio de Sá-Campus Joao Uchoa-

A 79-year-old man reported to the Department of Oral Medicine with a history of lesions on oral mucosa, for the past weeks, without response to the treatments. He was submitted to numerous non-conclusive biopsies, laboratory tests and non-diagnostic serologic tests. After an attempt of therapy with the use of Dapsone, she presented a severe adverse reaction, being hospitalized with a diagnosis of Dress Syndrome, and the treatment with this drug had to be stopped. After 3 years, the patient developed vesicle lesions on the cervical region, face and back, as well as new oral bullous lesions, identified after a new biopsy as Pemphigus Bullosa. Pemphigus is a chronic vesico-bullous dermatoses of an autoimmune nature characterized by the presence of IgG antibodies directed against desmosome glycoproteins. It is a disease that affects mainly skin and mucous membranes. Often, the disease begins with oral lesions and subsequently, the skin. Nowadays the index is lower ranging from 5% to 10% and being related to the harmful side effects of the used corticosteroids for a prolonged time. In this way, the sooner the diagnosis is decided and the faster the treatment is started, the better the prognosis of the patient. The patient in question is still in treatment, presenting a good response to oral corticosteroid therapy.

#### 6743. Rare complication of adenotonsillectomy - pseudoaneurysm of the carotid artery

Cauê Duarte, Larissa Souza Barreto, José Antônio Pinto, Beatriz Silveira Zalla, Heloisa dos Santos Sobreira Nunes  
Núcleo de Otorrinolaringologia, Cirurgia de Cabeça e Pescoço e Medicina do Sono de São Paulo

**Introduction:** Hemorrhage is the most common complication in the postoperative of tonsillectomies, presenting an incidence of 3-3.9%. Intraoperative hemorrhage is associated with the operative technique and coagulopathy, but late bleeding, most common on days 5 to 7, is associated with separation of the blood clot from the tonsillar fossa. The facial artery has a variable path near the submandibular gland, approaching the tonsillar region, posterolaterally. In this area, the facial and the lingual artery are more vulnerable to traumatic lesions. As therapeutic options for late bleeding, there are three forms: local maneuvers, surgical ligation and endovascular treatment. Angiography is critical in assessing tonsillary blood supply and detecting possible aberrant vessel strokes.

**Objectives:** In the present paper, we report one case of pseudoaneurysm of the carotid artery.

**Resumed report:** A 5-years-old patient underwent adenotonsillectomy and inferior turbinete cauterization. After 13 days, the patient had a episode of oral bleeding, which stopped spontaneously. Posteriorly he presented another episode of oral bleeding and was cauterized and posterior packing. On the 30th postoperative, the patient presented new bleeding in a large quantity, derived from the right tonsil fossa. Angiography were performed and showed pseudoaneurysm of the maxillary artery, which was

embolized. On the 5th day after discharge, he presented great oral bleeding from the right tonsil fossa, evolved to hypovolemic shock and death.

**Conclusion:** Among the causes of late bleeding, pseudoaneurysm rupture can significantly compromise the patient's clinical condition and be fatal. Repeated bleeding episodes should be considered as warning signs of severe bleeding.

#### 6747. Amyloidosis of the larynx: case report and current treatment review

Fernando Liess Krebs Rodrigues, Flavia Rodrigues Ferreira, Roberto Campos Meirelles, Shiro Tomita , Raquel Faria Vasconcellos, Felipe Paraguassu Demes, Beatriz Figueiredo Brandão  
Hospital Universitário Clementino Fraga Filho - Universidade Federal do Rio de Janeiro

**Introduction:** Amyloidosis is a general term referring to different conditions that lead to extracellular deposit of amyloid fibrils, which can occur throughout the body as a systemic disease or in a specific site, characterizing localized forms of amyloidosis. Localized laryngeal amyloidosis represents 1% of all benign tumors of the larynx, and it is usually not related to the systemic disease. Hence, treatment options available also differ from the systemic form of amyloidosis.

**Objectives:** Report a case of amyloidosis of the larynx and review literature concerning the best available treatment nowadays.

**Resumed report:** A 66-year-old male was referred to otalaryngology department due to progressive hoarseness for about 10 months. At this time, videolaryngoscopy showed exofitic mass originated in the subglottis but extending to vocal folds and causing moderate inspiratory dyspnea. Biopsy was inconclusive in both couple of initial attempts but the third one revealed the diagnosis of amyloidosis. After a few weeks, suddenly severe airway obstruction determined emergency tracheostomy. Research for systemic involvement was negative. Finally, it was decided to proceed laser surgical excision of vocal folds and subglottic area lesions to improve airway.

**Conclusion:** Amyloidosis of the larynx may occur as unspecific tumoral mass, in most cases presenting without systemic disease. In face of that, approach usually includes local excision with both laser or microlaryngeal instruments, with the current trend to use laser techniques. Follow-up studies show that symptoms tend to be well managed with this method, but still require long-term clinical accompaniment.

**Key words:** amyloidosis; laryngeal amyloidosis; laryngeal tumor.

#### 6749. Use of the video head impulse test as a tool for canvas diagnosis

Ana Larisse Gondim Barbosa, Mariane de Souza Zampieri, Fabrício Leocadio Rodrigues de Sousa, Renato Cal, Jocyane de Souza Andrade  
Hospital Universitário Bettina Ferro de Souza - Universidade Federal do Pará

**Introduction:** CANVAS is a syndrome characterized by cerebellar ataxia, peripheral neuropathy and bilateral vestibular areflexia. Doctors have been having difficulties to document vestibular areflexia in a more comfortable way for the patient, since ataxia and neuropathy are easily tested. Years ago, the documentation of vestibular areflexia would have to be made using the caloric test, which tests only the lateral semicircular canal and is performed in low frequency, far from the labyrinth physiological. However, we can objectively measure the gains of vestibulo-ocular reflexes (VOR) in all six semicircular canals quickly, reliably and without any discomfort for the patient with the video head impulse test (vHIT).

**Objective:** showing how vHIT has been essential for diagnose and confirmation of CANVAS. Resume Reports Two patients (male, 74 years; female, 73 years) were assessed complaining of dizziness and instability for about a year. There were no vertigo and auditory symptoms at all. The neurological physical exam have showed cerebellar ataxia (gait alteration, dysdiadochokinesia and unsatisfactory index-naso test), impossibility of maintaining posture on an unstable surface and peripheral neuropathy specially in the

lower limbs. By means of vHIT (ICS Impulse®, Otometrics®), when evaluating VOR, they had reduced gains in all six semicircular canals, proving bilateral vestibular areflexia in both cases. Conclusion Based on the homogeneous course of symptoms and signs, the diagnosis of CANVAS should always be considered, and vHIT is an important tool for documenting bilateral vestibular areflexia in a comfortable way for the patient.

**Key words:** head impulse test, vestibular disease, cerebellar ataxia.

#### 6754. Diagnostic challenge of diffuse large b-cell non-hodgkin lymphoma in the palate: case report

Lívia Marge de Aquino Guedes, Daniella Leitao Mendes, Alexandre José de Sousa Cunha, Camila Bae Uneda, Nilce Sanny Costa da Silva Behrens, Bernardo Relvas Lucas, Juliana Cagliari Linhares Barreto  
Hospital Naval Marcílio Dias

**Introduction:** The B-cell lymphoma, a non-Hodgkin's subtype, accounts for 90% of lymphoma cases. When in the oral region, they are rare and presents rapid progression. Incisional biopsy increases the positive result.

**Objectives:** To demonstrate the importance of the suspicion and early diagnosis of this pathology and the relevance of the otorhinolaryngologist in this investigation.

**Resumed report:** Female, 76 years old, presented in December/2016 an hyperchromic, ulcerated and infiltrative lesion, with clean bottom, about 2 centimeters in the hard palate associated to a left facial edema. Paranasal sinus tomography: expansive lesion on the palate with bone erosion, invasion of the nasal cavity and oronasal fistula, possibly spreading through the left pterygopalatine fossa. Palatal biopsy: necrotic exudative inflammatory reaction. Serologies: Herpes, CMV, Toxoplasmosis, Paracoccidioidomycosis, VDRL, Histoplasma capsulatum, fungi, parasites and PPD were negatives. New biopsy didn't show neoplastic cells. MRI of the Face: adenomegalies with suspicious characteristics in chains II and III (free of malignancy in the biopsy). Cultures: multibacterial infection. Hospitalized in March/2017, he was submitted to a face's lesions debridement and new biopsy on the upper lip with histopathological conclusion of Diffuse B-Cell Large-Bound Non-Hodgkin's Lymphoma, germinal center molecular classification. Despite broad-spectrum antibiotic therapy, she had a worsening of her state of health and died within a few days.

**Conclusion:** Treatment of Large B-cell Non-Hodgkin's Lymphoma depends on an early and effective diagnosis for prognostic improvement. In this case, the late histopathological diagnosis and the rapid tumor evolution, led to death before the specific treatment.

**Key words:** Lymphoma; Palate; Biopsy.

#### 6755. The importance of the differential diagnosis of Bezold's abscess

Thiago Chalfun de Matos Fonseca, Camilo Pessi Brumatte, Juliana Cagliari Linhares Barreto, Luiz Felipe Lira de Moraes, Alexandre José de Sousa Cunha, Daniella Leitao Mendes  
Hospital Naval Marcílio Dias

**Introduction:** Bezold's abscess is an extracranial complication of the otitis media, due to the rupture of the cortical of the pneumatized mastoid, being more frequent in adults. The disease may reach the mediastinum through the length of the sternocleidomastoid muscle within weeks. It is characterized by pain, torticollis, cervical bulging and otorrhea. A computed tomography (CT) scan of the cervical and mastoid is required. The treatment consists of parenteral antibiotic therapy, mastoidectomy and an exploratory cervical approach with abscess drainage.

**Objective:** To emphasize the importance of this condition, since its initial presentation can lead to a diagnostic error, leading to inadequate therapeutic measures and to the development of complications.

**Resumed report:** 14-year-old male, otalgia, diagnosed with acute otitis media and treated for 7 days with amoxicillin + potassium clavulanate, which progressed to otorrhea, fever, increased volume of the cervical region and pain with movement. Patient returned to

the health unit where he was prescribed symptomatic for torticollis. The symptoms persisting, the patient sought otorhinolaryngology at Naval Hospital Marcílio Dias, a diagnosis of Bezold's abscess was made. A CT of the mastoid and neck and laboratory tests showed collection in the middle ear, cervical abscess and leukocytosis. Parenteral antibiotic therapy was started and surgical drainage was performed, having evolved with high clinical improvement.

**Conclusion:** Bezold's abscess should be considered as a differential diagnosis given its potential for evolution with other complications. Once the diagnostic suspicion is made, CT and parenteral antibiotic therapy are important. Most cases require surgical intervention.

#### 6756. Repetitive cerebral abscess secondary to chronic otitis media: case report

Luiza Anunciação França, Raquel Ferreira Moreira, Pedro Henrique Almeida Nascimento, Walter dos Reis Siqueira Junior, Gilberto Francisco Ferreira Filho, Tarssius Capelo Candido, Andre Costa Pinto Ribeiro  
Hospital Universitário da Universidade Federal de Juiz de Fora

**Introduction:** Chronic otitis media is a frequent cause of medical appointments and, when not properly managed, can lead to serious complications. These, are more common in the cholesteatomatosus type. Due to the resulting sequelae and high mortality rate, early diagnosis is important. This report involves a case of cholesteatomatosus otitis media that evolved with repeated intracranial abscesses at the Hospital of the Federal University of Juiz de Fora, alerting about their potential complications and highlighting their relevance.

**Objectives:** To alert and emphasize the relevance of the possibility of cholesteatoma in the processes of chronic otorrhea and its potential complications.

**Resumed report:** M.G.J., 50 years, admitted by the Otorhinolaryngology service for surgical treatment. In the anamnesis, it was reported a chronic right otorrhea for 30 years, untreated, that evolved in mastoiditis and repetitive intracranial abscesses in the right temporal lobe. There were irreversible neuromotor sequelae. Computed tomography demonstrated regions with bone erosion and communication between the middle ear and middle brain fossa. Radical mastoidectomy on the right ear and closure of this communication was performed.

**Conclusion:** Intracranial complications due to chronic otitis media, although uncommon, still occur. These cases require costly, complex and long-term hospital treatment, and often result in hearing loss, neurological sequelae, and mortality. It is important to be aware of this potentiality and to maintain a high index of suspicion, referring for otological evaluation and anticipating the occurrence of complications.

**Key words:** cerebral abscess; cholesteatoma; chronic otitis media.

#### 6759. Case report - pleomorphic adenoma of the nasal septum

Allisson Hora Sousa, Claudia Cristiane Alves da Costa, Ronaldo Carvalho Santos Júnior, Patricia Araújo de Andrade, Natália Cristina Gomes do Amaral, Carlos Alberto Franca Dantas Passos, Mayza Souza Costa  
Universidade Federal de Sergipe

**Introduction:** Tumors of the nasal cavity are rare pathologies. The main neoplasms of this region are the epithelial papillomas, carcinomas, angiomas and adenocarcinomas. Pleomorphic adenoma occurs less frequently in the nasal cavity, but is the most common benign glandular tumor in the head and neck region. The diagnosis is confirmed by the pathology and the surgical treatment can be conservative or radical, indicated to depend on the evolution of the tumor.

**Objectives:** To describe the case report of patient with pleomorphic adenoma in the nasal cavity in the nasal septum region.

**Resumed report:** J.A.A., male, 26 years old, Caucasian and resident in Aracaju-SE. He sought care after observer bulging in the left nostril with onset 1 year ago. He presented nasal obstruction

and recurrent epistaxis ipsilateral to the bulging. History of previous rhinitis. Nasal videoendoscopy presented a vegetative lesion in the nasal cavity with medium-meatus involvement with smooth, elastic, painless and non-ulcerated appearance. The high resolution computed tomography showed an oval image with attenuation of soft parts and no contrast enhancement in the left nasal cavity between the septum and middle turbinate. After the surgery, the anatomopathological confirmed the hypothesis of pleomorphic adenoma.

**Conclusion:** The pleomorphic adenoma in this location is quite rare and the good prognosis in the surgical treatment of this pathology makes the case report of this patient with great significance in order to always keep it in the set of differential diagnoses.

#### 6760. Immunohistochemical: diagnostic method rhinopharyngeal neoplasia

Thaís Brunheroto, Lauriane dos Santos Martins, Mariana Barroso Scaldini, Camila Pereira de Moraes, Matheus Moro Rabesquino, Fabio Augusto Winckler Rabelo

*Irmãndade Santa Casa de Misericórdia de Santos*

**Introduction:** The most aggressive tumors of the rhinopharynx are of lymphoid origin, and it is difficult to differentiate undifferentiated squamous cell carcinoma with giant cell lymphoma, requiring immunohistochemical studies to do so.

**Objective:** To describe the importance of immunohistochemical exams for assertive diagnosis and success on its treatment.

**Resumed report:** Young, female, 24 years old, complaining about hearing loss on her left ear, left cervical tumoration and nasal congestion for 6 months. Initiated diagnostic investigation with laboratory tests, positivizing IGM IgG for Epstein Barr virus. Nasopharyngoscopy demonstrates an expansive lesion of the mucosa in the rhinopharynx. Computed tomography of the neck evidenced mass in progress of the posterior wall of the rhinopharynx. Biopsy coughed a suspected lesion demonstrating anatomopathological result of undifferentiated neoplasm in lymphoid stroma. Confirmed with compatible immunohistochemistry with undifferentiated nonkeratinized carcinoma (lymphoepithelioma) of the rhinopharynx. Patient continues with oncology follow up.

**Conclusion:** The rhinopharyngeal neoplasia, with the classic symptomatological triad: cervical adenomegaly, nasal obstruction and serous otitis media. The case demonstrates the importance of immunohistochemistry examination, which is a method of tissue analysis through a microscope, seeking to identify molecular characteristics of the diseases. It can help in several situations, such as in the diagnosis of undifferentiated tumors. Thus, as presented in this case, only after the immunohistochemistry result was the diagnosis confirmed, being undifferentiated non-keratinized carcinoma, not lymphoma, as the anatomopathological still suggested. It can lead the case in the proper way, with more successful treatment and increased survival.

**Key words:** immunohistochemical exams; rhinopharyngeal neoplasia; lymphoma.

#### 6766. Septal hematoma after dengue hemorrhagic fever: a case report

Amanda Horie Cardoso, Luiz Eduardo Flório Junior, Larissa Borges Richter Boaventura, Gabriella Macêdo Barros, Gislaine Patricia Coelho, Vinícius de Faria Gignon, Nathalia Tenorio Fazani

*Pontifícia Universidade Católica de São Paulo*

**Introduction:** Patients with dengue hemorrhagic fever have increased vascular permeability and show hemorrhagic manifestations, such as mucosal bleeding and epistaxis, but septal hematoma is a rare find after this disease. Septal hematoma is characterized as blood that collects between the septal cartilage and the perichondrium. Patients should be treated promptly due to complications, such as septal cartilage ischemia or permanent necrosis. The treatment consists in incision and drainage of the hematoma followed by nasal packing.

**Objectives:** Present a rare case of septal hematoma after dengue hemorrhagic fever and its management.

**Resumed report:** A 19-year-old male was referred to the

Otolaryngology Department presenting nasal obstruction and pain for 3 days. Patient had dengue hemorrhagic fever and had completed treatment 10 days before. During examination, anterior rhinoscopy showed bilateral swelling arising from the nasal septum. It was necessary an emergency surgical procedure to incise and drain the septal hematoma. A hydroxylated polyvinyl acetate sponge (PVAS) was used as nasal packing to stabilize the septum and prevent postoperative hemorrhage. Patient used antibiotics and had an excellent recovery after 7 days.

**Conclusion:** Septal hematoma may cause serious complications in a short period of time, thus even though a septal hematoma after dengue hemorrhagic fever is rare, it should be considered an important differential diagnosis when a patient presents nasal obstruction. Treatment should be the usual management in cases of septal hematoma.

**Key words:** septal hematoma, dengue hemorrhagic fever, nasal obstruction.

#### 6768. The relevance of pharyngeal-laryngeal reflux in dysphonia

Juliana Cagliari Linhares Barreto, Bernardo Relvas Lucas, Larissa Odilia Costa Binoti, Thiago Chalfun de Matos Fonseca, Daniella Leitao Mendes, Camila Bae Uneda, Lívia Marge de Aquino Guedes Hospital Naval Marcílio Dias

**Introduction:** The pharyngeal-laryngeal reflux (PLR) is defined as the presence of symptoms, signs and tissue damage, exclusively extra-esophageal. Pharyngo-laryngeal reflux is one of the most relevant factors for the development of dysphonia, and is present in approximately 50% of patients with voice disorders.

**Objectives:** The objective of this study is to correlate the characteristic findings of pharyngo-laryngeal reflux found in the videolaryngoscopy examination with the complaint of dysphonia.

**Methods:** The study was based on the review of electronic medical records, from April 2016 to April 2017, in the research for diagnose code dysphonia in our ENT outpatient clinic with videolaryngoscopy reports. Of the 108 outpatient visits, 45 patients were selected. The sample consisted of individuals aged between 34-85 years. The following aspects were evaluated: gender, history of current or previous smoking, findings in the videolaryngoscopy.

**Results:** The results, when analyzed videolaryngoscopy reports, were : 14 pharyngeal-Laryngeal reflux (PLR) isolated (31,1%) , 10 pharyngeal-laryngeal reflux associates with other vocal cords injury (22,2% ), 3 vocal nodule (6,6%), 3 (6,6%) vocal fold paralysis, 3 (6,6%) reinkection edema, 3 (6,6%) polipus, 3 (6,6%) vocal cysts, 2 (4,4%) post radiation changes after laryngeal cancer , 2 without damages (4,4%), 1 granuloma (2,2%) and 1 leukoplakia of vocal cords (2,2%).

**Conclusion:** The results demonstrate the relevance of pharyngeal-laryngeal reflux, the most prevalent cause of dysphonia in our clinical practice. The early diagnosis allows a simple therapeutic management when compared to other disorders.

**Key words:** dysphonia ; pharyngeal-laryngeal reflux ; voice disorders.

#### 6769. Rhinoplasty in nasal tip ptosis: case report

Simone Rennó Rosa, Artur Grinfeld, Washington Luiz Almeida , Lívia Modesto Sotero  
*Hospital Otorrinos*

**Introduction:** Nasal tip Ptosis is a common complaint in nasal esthetics. In this case there was a significant improvement of the patient's facial harmony with the improvement of this defect through rhinoplasty.

**Objectives:** To report a case of improvement of the nasal tip in a male patient with delivery access.

**Resumed report:** Patient AAG, male gender, 52 years old, with complaint of nasal tip ptosis, obtained improvement of the nasal labial angle with the placement of strut graft and lateralization of the domes in 3mm, technique of the neodomos, in rhinoplasty performed through delivery access.

**Conclusion:** There was a satisfactory improvement of the nasal tip ptosis in a male patient submitted to rhinoplasty performed by delivery access.

#### 6781. Temporal arteritis complicated with tongue necrosis: case report

Ana Paula Giusti de Campos, João Fabio Sadao Sati, Maury de Oliveira Faria Junior, Thainá Soares Miranda Silva  
FAMERP

**Introduction:** Temporal arteritis, also called giant cell arteritis, is a systemic vasculitis of medium and large caliber vessels, primarily involving the extracranial branches of the carotid artery. Usually affects older people and the most common otorhinolaryngological manifestations are dry cough, odynophagia, dysphonia and neck pain. The involvement of the tongue, despite its rich vascularization, can evolve in rare cases for necrosis.

**Objectives:** To report a case of temporal arteritis diagnosed after complications with tongue necrosis.

**Resumed report:** Male, 79 years old, with bilateral frontotemporal headache for 40 days, evolving with odynophagia, palpebral ptosis, diplopia, hypoesthesia in bilateral frontotemporal region, and tongue edema associated with mid and anterior necrosis. Biopsy was performed, evidencing chronic glossitis in acute, ulcerative and nonspecific outbreaks with areas of necrosis. In laboratory tests, erythrocyte sedimentation rate of 90. Breath hypothesis of temporal arteritis and initiated rheumatologic follow-up. Corticosteroid therapy was initiated at high doses and via alternative feeding (nasointerstinal tube). He was discharged after clinical improvement, maintaining use of oral corticosteroid therapy and follow up with rheumatology and otorhinolaryngology.

**Conclusion:** The occlusion of the lingual artery and its collateral causing a lingual necrosis is a rare occurrence in cranial arteritis. Lingual pain or lameness and difficulty swallowing are important warning signs to prevent evolution to necrosis. Elderly patient with intense lingual pain should always be investigated for this entity.

#### 6782. Nasal rhinosporidiosis: case report

Ana Paula Giusti de Campos, João Fabio Sadao Sati, Thainá Soares Miranda Silva, Atilio Maximino Fernandes  
FAMERP

**Introduction:** Rhinosporidiosis is a fungal granulomatous disease, rare in Brazil, occurring mainly in the northeast region. Its etiological agent is Rhinosporidium seeberi. Contamination occurs by inhalation or contact with water in areas of the micro-traumas of the nasal mucosa. Clinically it presents as a polypoid lesion causing nasal obstruction, rhinorrhea and epistaxis. The treatment is by surgical excision.

**Objectives:** Report a case of nasal rhinosporidiosis treated at a hospital school from a city in Northwestern São Paulo State - Brazil.

**Resumed report:** Male, 20 years old, locksmith, natural and from Potirendaba - SP, with complaint of lesion in the left nasal cavity of progressive growth for three months, associated with nasal obstruction, sporadic epistaxis and hyposmia. He denied comorbidities. He denied recent travel. At the examination, a verrucous-looking lesion was seen in the left nasal vestibule, based on the floor and anterior septal mucosa. Laboratory exams without changes. Chest X-ray discarding pulmonary involvement. The lesion was excised, with pathology compatible with rhinosporidiosis. Follows postoperative follow-up without recurrence of the condition.

**Conclusion:** Nasal granulomatous diseases are relatively rare in Brazil and, for their diagnosis, it is necessary to always consider the patient's origin and life habits. The differential diagnosis with other nasal granulomatous diseases is essential, as well as the anatomopathological study is mandatory to set the diagnosis, thus defined better therapeutic management and resolution of the disorder.

#### 6784. Complication of chronic otitis media cholesteatomatous with sigmoid and transverse sinus thrombophlebitis and epidural and subdural abscesses: case report

Gustavo Mercuri, Tamires Ferreira Siqueira, Cintia Vanette, Lucas Spina, Dândara Bernardo Siqueira, Camila Sá de Melo Campos, Norimar Hernandes Dias  
Faculdade de Medicina de Botucatu - UNESP

**Introduction:** Chronic otitis media are classified as cholesteatomatous and non-cholesteatomatous. Although less frequent, cholesteatomatous patients present a higher risk of complications due to their invasive nature.

**Objective:** To report case of complication of chronic otitis media cholesteatomatous.

**Case report:** A 19-year-old male patient with chronic otorrhea since childhood, referred for evaluation due to earache and right-sided otorrhea for eight days, associated with severe occipital headache, fever, nausea, vomiting and vertigo. Treated in another service, with amoxicillin for seven days, without improvement. The otomicroscopy: tympanic membrane with important retraction, adhered to the mesotympanum, with apparent erosion of the ossicles and granulation tissue in the hypotympanum. Discrete pain on palpation of the retroauricular region. The tomography visualized content of soft parts in middle ear and epidural abscess. The angiography revealed thrombophlebitis at the sigmoid and transverse veins right. Modified the antibiotic therapy and performed right radical mastoidectomy, with epidural abscess drainage. In spite of initial clinical improvement, resorted neurovegetative symptoms, being found a subdural abscess in a new tomographic. Immediately drained, the patient presented good evolution, without recurrence of symptoms or other complications.

**Conclusion:** Although the use of antibiotics has reduced the number of complications due to otitis media, this still presents a challenge. The previous use may mask a possible complication and postpone its diagnosis. In cases where otogenic complications are suspected, the tomographic study is indispensable and, as the case, surgical treatment should be performed as soon as possible.

**Key words:** cholesteatoma, complications, mastoidectomy, chronic otitis media.

#### 6787. Complication of Acute Bacterial Rhinosinusitis with Orbital Abscess: Case Report

Gustavo Mercuri, Tamires Ferreira Siqueira, Cintia Vanette, Camila Sá de Melo Campos, Dândara Bernardo Siqueira, Lucas Spina, José Vicente Tagliarini  
Faculdade de Medicina de Botucatu - Unesp

**Introduction:** Acute Bacterial Rhinosinusitis complications appear to be more frequent in children than in adults, and are directly related to the intimate anatomical relationships between the paranasal sinuses and other structures of the head. The tomography is fundamental for an early and accurate diagnosis. Surgical treatment should be performed as soon as possible, thus enabling favorable results.

**Objective:** To report case of complication of acute bacterial rhinosinusitis.

**Case report:** A 14-year-old female, with headache, frontal region, and single febrile peak for 2 weeks. It evolved with significant edema in the left orbital region. Treated, in another service, with Clindamycin and Ceftriaxone for seven days, without improvement. Forwarded for evaluation, she presented lower turbinate hypertrophy and pale, purulent secretion in the middle meatus, bipalpebral edema associated with the presence of chemosis and proptosis in the left eye. Ophthalmology analysis: supraduction restriction and preserved abduction and adduction. Modified antibiotic therapy for vancomycin and piperacillin - tazobactam. The orbits of the face and ocular orbit's tomography demonstrated the presence of orbital abscess. In surgery, the incision was made below the left eyebrow near the orbital and allocated of penrose drainage, FESS with osteotomy of the maxillary sinuses, anterior and posterior ethmoidectomy, sphenoid, frontal and

papillary lamina removed with periorbita release. Patient presented good evolution, with regression of facial edema, without recurrence of the condition.

**Conclusion:** Orbital complications often require a rapid multidisciplinary approach because in some cases, it may evolve with serious consequences or even death.

**Key words:** acute bacterial rhinosinusitis, complications, orbital abscess.

#### 6788. Cochlear Implant in a patient with Arnold-Chiari Syndrome

Maria Stella Arantes do Amaral, Miguel Angelo Hyppolito, Eduardo Tanaka Massuda, Ana Cláudia Mirândola Barbosa Reis, Carla Dias da Silva, Daniela Soares Fonseca da Costa

**Introduction:** Chiari malformation is a congenital disease characterized by herniation of posterior fossa contents below the foramen magnum level. Three types exist. Chiari type II malformation (Arnold-Chiari) consists of herniation of the tonsils, cerebellar vermis, IV ventricle and a lower portion of the bulb through the occipital foramen. It usually manifests as myelomeningocele in the thoracolumbar spine, hypoplasia of the posterior fossa, encephalic herniation into the cervical spinal canal and compression of the cranial nerves.

**Objectives:** To verify the efficiency of Cochlear Implant (CI) Surgery in a patient with Arnold-Chiari Syndrome.

**Resumed report:** A 6-year-old female, with meningomyelocele and congenital hydrocephalus with deafness at 3 years of age after a meningitis episode. She was evaluated as hearing category-0 and Language-2. Tone Pure Audiometry revealed bilateral profound sensorineural hearing loss. The Nuclear Magnetic Resonance showed a diffuse reduction of the white matter, sharp tapering and arching of the corpus callosum with marked dilation of the supratentorial ventricles. (Chiari type II). Ear-CT (Computed Tomography) scan confirms bilateral hypoplasia for lateral semicircular canal and right cochlea.

Cochlear Implant Surgery was performed on the left ear with the Medel Cochlear Implant-SONATAti100. Currently the child is 12 years old, 6 years after surgery, performs speech therapy 3 times per week and improve his skills to hearing category-6 and Language-5.

**Conclusion:** Despite the presence of Arnold-Chiari syndrome and even with neurological alterations presented with DVP (Peritoneal ventricular valve), CI surgery has good hearing results.

#### 7710. Usher syndrome: case report

Vanessa Carvalho de Oliveira, Mayara Moreira de Deus, Mariana Santana Xavier, Bruna Coelho Ellery, Maury de Oliveira Faria Junior, Alexandre Ramos Caiado Filho  
FAMERP

**Introduction:** Usher syndrome is characterized by the association of bilateral sensorineural hearing loss and pigmentary retinitis. It presents autosomal recessive inheritance, and 4 types of manifestations are described. It is more incident in adolescence / young adults and affects from 3 to 4.4 per 100 thousand people. Goal. Report a case of Usher Syndrome and discuss its main clinical aspects.

**Case Description:** A.J.O, 16, black, high school student with a history of bilateral hearing loss associated with tinnitus, with progressive worsening since the age of 14 years. After one year, it evolved with decreased visual acuity of nocturnal predominance. After ophthalmologic evaluation she was diagnosed with pigmentary retinitis. It presents two older brothers with pigmentary retinitis and bilateral hearing loss. Deny history of consanguinity between parents. The three siblings do not present psychiatric conditions. Patient was evaluated at the Otorhinolaryngology Service of FAMERP this year, which revealed bilateral sensorineural hearing loss in audiometry, mainly in acute frequencies. The otoneurological clinical examination was normal. The case described is Usher syndrome type II, as classified by Merin et al. It was indicated the use of Bilateral Individual Sound Amplification Apparatus and genetic counseling. The patient makes use of corrective lenses, with improvement of the visual complaints, follow-up accompanying with Ophthalmology. Considering the impacts that auditory and visual impairment cause on the quality of

life of patients affected, the importance of early diagnosis, regular multidisciplinary follow-up and genetic counseling to prevent new cases and ophthalmologic evaluation are emphasized.

#### 7735. Fontal's Mucopyocele

Luiz Gustavo Espanhol, Bernard Beraldin, Giovana Hauschild Pellegrin, Luiza Flores da Cunha Thompson Flores, Guardiano Henrique Martins Teixeira, Cassiano Dal Monte Gallas  
Hospital Beneficência Portuguesa de Porto Alegre.

**Introduction:** the mucopyoceles, infected mucocele, are cysts of mucous content that affect the paranasal sinuses. They have an expansive character, slow growth and may compromise adjacent noble structures. Endoscopic nasosinus access of frontal sinus mucopyocele can be considered the first choice because is less invasive and presents less morbidity compared to conventional techniques.

**Objectives:** Demonstrate the severity of this disease in advanced stages and the possible damages that this illness brings and to present the most appropriate form of treatment.

**Resumed report:** Female, 83 years old, presented palpebral ptosis since 3 years from medical appointment and progressive worsening associated with chronic right hemifacial pain. No history of nasal trauma or any nasal discharge. The sinus CT scan showed frontal sinus and right ethmoidal cells opacification as well as an expansive lesion with involvement of the bone walls compatible with the frontal sinus mucopyocele. She underwent endonasal endoscopic surgery with opening and direct access to the frontal sinus. The contents of the frontal sinus were removed uneventfully. The patient progressed with total improvement of symptoms.

**Conclusion:** The exam of choice for the diagnosis of frontal sinus mucopyocele is CT scan. The most common finding is frontal sinus opacification, in addition to signs of bone destruction due to compression exerted by the mucopyocele. The best form of treatment of the mucopyocele of the paranasal sinuses is the nasal endoscopic surgery because it is an effective and safety access route in the therapeutic approach of these alterations.

#### 7740. Sudden loss due to viral labyrinthitis: case report

Adriano Sergio Freire Meira, Rebeca Maurera Almeida Cyrillo, Alexandre Augusto de Brito Pereira Guimaraes, Kallyne Cavalcante Alves Carvalho, Lorena Pinto de Souza Pontes, Poliana Gonçalves Vitorino Monteiro, Adilson de Albuquerque Viana Junior  
SOS Otorrinho JP/PB

E.M.W, 35 years old, came to the otolaryngology service with complaints of incessant tinnitus, hypoacusia in the right ear, rotatory vertigo and vomiting episodes. Oroscopy, Otoscopy, Rhinoscopy, balance and cerebellar tests all showed no alterations. The audiometry presented: right ear with no hearing abnormalities, impedanciometry with type A curve and present reflexes; left ear with profound degree of sensorineural hearing loss, impedometry with type A curve and absent ipsilateral reflexes. Vector electronystagmography's results presented alterations deficit and peripheral on the left side. Treatment with Prednisolone, Pentoxifilina was then initiated. A cranial NMR with emphasis on auditory pathways, as well as laboratorial tests, were required. The patient then returned with a partial improvement regarding the vertigo symptom, although still presenting hypoacusia. The NMR showed a hypersignal in T1 and a gadolinium enhancement in the vestibular-cochlear area in the left ear, related to the inflammatory injuries present in the inner ear, with the supposition of viral labyrinthitis, given a disease was active in the cochlea. Acyclovir 800 mg/dose was then administered for 5 days, associated with intratympanic infiltration of dexamethasone. After weekly infiltrations and monitoring through audiometry tests, there was an improvement in the vertigo symptom, with the acute loss still present. Discussion: Labyrinthitis may be caused by virus, bacteria, lesions or an immune mediated disease. Both viral and bacterial labyrinthitis may cause permanent hearing loss. Final Comments: The use of medicinal treatment and the clinical monitoring are essential for the treatment of viral labyrinthitis, in order to control its symptoms.

**7745. Screening for obstructive sleep apnea in university students during the sleep awareness week 2017**

Letícia Dominguez Campos, Camila de Castro Corrêa, Silke Anna Theresa Weber  
Botucatu Medical School - State University São Paulo, Unesp

**Introduction:** Every year, the Sleep Awareness Week (SAW) is conducted worldwide, with action of health promotion, improving population awareness about the importance of a good quality of sleep and prevention of sleep disorders. In the interior of São Paulo State, the SAW 2017 included activities such as lectures in universities, and answering of questionnaires by the students, for the detection of possible sleep disorders, such as obstructive sleep apnea (OSA).

**Objective:** To describe the risk for OSA among university students screened during the SAW 2017.

**Methods:** The risk for OSA was assessed by the STOP-BANG questionnaire in three universities. The questionnaire is composed by 8 items, with "Yes" (score=1) or "No" (score=0) answers; total scores of 0-2 were considered indicative of low risk for OSA, 3-4 as intermediate risk, and  $\geq 5$  as high risk. The body mass index (BMI) was calculated for all participants.

**Results:** A total of 114 university students were invited, 80 female and 34 male. The mean age was  $25 \pm 7$  years (18 to 57) and mean BMI was  $26 \pm 5$  kg/m<sup>2</sup>. The mean STOP-BANG questionnaire total score was  $1 \pm 1$ , and 103 (90%) individuals had scores indicative of low-risk for OSA, 9 (8%) of intermediate risk and 2 (2%) of high risk.

**Conclusion:** Even in an age range not considered a risk for OSA, this study showed that 10% of the university students presented an intermediate to high risk for OSA. Considering the serious consequences of OSA on daytime performance and the occurrence of associated comorbidities, more actions for awareness are important.

**Key words:** Sleep apnea. Questionnaires. Health Promotion.

**7746. Case report: Peripheral ossifying fibroma in maxillary sinus, with important facial asymmetry**

José Márcio Barcelos Costa Júnior, Larissa Parrela Rodrigues, Mirian Cabral Moreira de Castro, Carolina Bongiolo, Cintia Elisa Gonçalves Costa, Luanna Rocha Vieira Martins  
Santa Casa de Belo Horizonte

**Introduction:** The peripheral ossifying fibroma is a slow growth benign tumor, commonly found on maxillary bone. It is generally asymptomatic, but may induce facial asymmetry, which can cause social stigmas. The treatment consists in extensive surgical approach, due to reduce the risks of recurrence after removal.

**Objective:** Report a case of peripheral ossifying fibroma located in maxillary bone, very extensive.

**Case report:** W.J.A., male, 24 years old, complains about asymmetry since he was fourteen. He relates two epileptic seizures, facial pain and nasal obstruction on the left side. Tomographic computadorized studies evidenced extensive lesion, with high density occupying all left maxillary sinus, causing important facial asymmetry. He underwent extensive tumor resection, by transcanine fossa approach. Histopathological studies confirmed peripheral ossifying fibroma diagnosis.

**Conclusion:** Due to its slow growth, the peripheral ossifying fibroma is commonly belatedly diagnosed. Because of this, it can already have facial asymmetry and social stigmas. The otolaryngology must be aware of this diagnosis, in order to start the treatment earlier and increase the possibility of complete lesion removal and better esthetic results.

**7748. Case report: Recidivated hemangiopericytoma in maxillary and sphenoid sinus**

José Márcio Barcelos Costa Júnior, Laura Isoni Auad, Mirian Cabral Moreira de Castro, Carolina Bongiolo, Cintia Elisa Gonçalves Costa, Luanna Rocha Vieira Martins  
Santa Casa de Belo Horizonte

**Introduction:** Hemangiopericytoma is a rare vascular tumor, with high degree of malignancy. It is originated by a special

extra-capilar cell named Zimmerman capillary pericytes. About 25% of cases affect head and neck region, but sinus origin is uncommon. The diagnosis is made by histopathological analysis. The main treatment consists in aggressive surgical resection, respecting oncologic border. It has a high risk of recurrence.

**Objective:** The main objective is to report a case of this rare tumor, with early recurrence in maxillary sinus.

**Case report:** R.A.N, female, 36 years old, underwent a previous resection of hemangiopericytoma in right infratemporal fossa in 2014. In 2017 she returns complaining about pain and paresthesia in right maxillary area since a month. Otoscopy evidenced tympanic membrane hyperemia and retrotympanic mass in the right side. The computadorized tomographic study evidenced an expansive lesion affecting medium fossa, infratemporal fossa, sphenoid and maxillary sinus, and middle ear in the right side. The patient underwent a surgical resection for external approach. Histopathological studies confirmed hemangiopericytoma diagnosis.

**Conclusion:** The hemangiopericytoma is a rare aggressive tumor, with nonspecific clinic symptoms. Otolaryngologist must be attention when come across vascular tumors in paranasal sinuses. The correct diagnosis and treatment should be instituted as earlier as it is possible for increasing the chance of cure.

**7749. Squamous Papillomatosis of the nasal cavity: case report and literature review**

Lorena Cristina Peres Rodrigues Gomes, Trissia Maria Farah Vassoler, Gilberto da Fontoura Rey Bergonse, Alana Farias Miksza Schauenburg, Michel Balvedi Nomura, Mariana Nagata Cavalheiro  
Department of Otolaryngology Head and Neck Surgery of the Brazilian Red Cross Hospital - Paraná Branch

**Introduction:** Squamous Papillomatosis of the nasal cavities is a rare pathology. Typically arises from the nasal vestibule and is characterized by the epithelial proliferation growing an exophytic manner with formation of multiple papillary fronds, uncommon mitosis, and little or no nuclear atypia. It is usually unilateral, doesn't cause bone destruction and is not considered to be a pre-malignant lesion. It is not clear how often human papilloma viruses are involved. Imaging studies are essential to view the extension of the tumor. The standard treatment is radical excision, however, complete eradication is difficult to achieve, 25-75% of all intranasal papillomas recur post-operatively. Radiotherapy is ineffective and always rises the possibility of developing malignancy.

**Objective:** Report a rare case of squamous papillomatosis of the nasal cavities and review of literature

**Resumed report:** A 6-year-old female patient sought urgent medical care for sudden protrusion of a nasal foreign body after blowing her nose. Reported yellowish rhinorrhea and left nasal obstruction for 3 years and left infraorbital bulging for 8 months. A Computed tomography showed: sphenoidal, maxillary and ethmoidal bilateral sinusopathy, and left nasal cavity filled with material with soft tissue density. Patient underwent excision of the lesion, and anatomopathological evidenced: squamous cell papilloma.

**Conclusion:** Otorhinolaryngologists should have this differential diagnosis in mind in cases of nasal tumors, because even though it is benign papilloma, its unrestricted growth can cause death if it extends into vital structures. Long term follow-up with endoscopic examination is mandatory to detect any recurrence.

**Key words:** Papillomatosis; squamous cell papilloma; nasal obstruction.

**7751. Cholesteatomatous chronic otitis media after trauma, associated with findings of congenital cholesteatoma: case report**

Felipe Xavier de Souza, Diego Costa Farias, Guilherme Silva Machado, Jessica Ramos Tavares, Cassia Maria Oliveira, Caroline Feliz Fonseca Sepeda da Silva, André dos Santos Brandão  
Hospital Universitário Bettina Ferro de Souza

**Introduction:** Chronic otitis media can develop due to an obstruction of the auditory tube, iatrogenic causes, progression

of acute middle ear infections and mechanical trauma. This condition may lead to the appearance of a lesion consisting of keratinized squamous epithelium, called cholesteatoma, which has hyperproliferative characteristics and often causes bones destruction. The disease can also form in cases of intact tympanic membrane, without previous affections, as in congenital cholesteatoma, which seems to originate from traces of embryonic cells in the middle ear.

**Objective:** To describe a case of posttraumatic chronic otitis media with evidence of a probable association with congenital cholesteatoma, accompanied at the Otorhinolaryngology Service of Bettina Ferro e Souza University Hospital.

**Resumed report:** A 64-year-old female patient with a history of traumatic brain injury for approximately five years. It evolved with hypoacusis, intermittent otorrhagia and otorrhea in the right ear. During radiological investigation, cholesteatomatosus chronic otitis media was evidenced, and the patient underwent right tympanoplasty and mastoidectomy. In the intraoperative period, were observed coalescent mastoiditis, cholesteatomato lesion originating in the mastoid antrum were, leading to the tympanic isthmus and a white-pearlescent lesion isolated in the epitmanium, suggestive of congenital cholesteatoma.

**Conclusion:** The case described of chronic inflammatory process of the middle ear, with few allusive findings of secondary cholesteatoma, raising the hypothesis of a probable rupture of the lesion matrix suggestive of congenital cholesteatoma after trauma, leading to progression to chronic cholesteatomatosus otitis media.

**Key words:** Otitis media; Cholesteatoma, Middle Ear; Cholesteatoma, Congenital.

#### 7753. Juvenile Nasopharyngeal Angiofibroma: case report and literature review

Lorena Cristina Peres Rodrigues Gomes, Diego Fernando Costa, Alana Farias Miksza Schauenburg, Denise Braga Ribas, Jose Luiz Pires Junior, Antonio Celso Nunes Nassif Filho

*Department of Otolaryngology Head and Neck Surgery of the Brazilian Red Cross Hospital - Paraná Branch*

**Introduction:** Juvenile nasopharyngeal angiofibroma is a rare tumor with vascular component, slow growing, benign but with behavior of local aggressiveness. Presents classic triad of: epistaxis, unilateral nasal obstruction and a mass in the nasopharynx. Affects almost exclusively male adolescents. Diagnosis is made based on the symptoms and image exams. Surgical excision is the treatment of choice.

**Objectives:** Report rare case of juvenile nasopharyngeal angiofibroma and literature review.

**Resumed report:** A 14-year-old male patient sought otolaryngologist complaining of large quantity of left-sided epistaxis for 1 month, associated with left nasal obstruction. Computed tomography of the face and neck revealed: large hypervascular expansive lesion with lobulated contours centered on the superior nasal portion of the nasopharynx and pterygopalatine fossa on the left, causing enlargement of this structure remodeling and erosion of the body and sinus of the sphenoid, posterior portion of the left ethmoid labyrinth, posterior nasal septum, left pterygoid process and the posterior wall of the left maxillary sinus with extension to its interior. Accompanying the posterior portion of the left nasal fossa, the left inferior orbital fissure and the left infratemporal fossa, causing erosion of the ethmoid fovea superiorly. No definitive evidence of intracranial extension. Patient was submitted to exeresis of the tumor, requiring embolization of collateral vascularization. Anatomopathological showed nasopharyngeal angiofibroma.

**Conclusion:** Emphasis is given to the importance of early diagnosis and treatment because the disease presents high morbidity and mortality rates, with potential for intracranial invasion. Patient follow-up should be maintained due the frequent recidivations.

**Key words:** angiofibroma; epistaxis; nasal obstruction.

#### 7754. Foreign bodies in otorhinolaryngology: a study of 88 cases

Byanca Hekavei Hul, Joao Paulo Contieri, Melissa do Rocio Regazzo Porto, Carolina Pedrassani de Lira, Diego Fernando Costa, Flávia Caroline Klostermann, Carolina Branco Andreatta  
*Hospital Universitário Evangélico de Curitiba*

**Introduction:** The occurrence of foreign organisms is a frequent cause of consultations in the emergency services, comprising about 11% of otorhinolaryngological emergencies. They complicate in 22% of the cases due to the attempt of withdrawal by nonprofessionals or by professionals who are not qualified.

**Objectives:** To describe a series of patients with foreign bodies, as well as to evaluate the epidemiology of this type of involvement in our department.

**Methods:** This is a retrospective and observational study of 88 patients with diagnosis of nose, ear and oropharynx foreign body, attended in the emergency room of the Hospital Universitário Evangélico de Curitiba, in the period from May 2014 through August 2017.

**Results:** It was observed that the most common foreign bodies were in the ear (65%), nostrils (20%) and oropharynx (9%), in descending order, predominating in men (56%). Patients' ages ranged from 0 to 72 years. The right side was the most affected for the ear and nose. The ear most common foreign body was insect (17.54%), followed by beans (7.01%) and cotton (7.01%). In the oropharynx, the spine was the most frequent (62.5%), as well as in the larynx. In the nose, the findings were varied. In 5 of the 88 cases collected, there was some type of complication associated.

**Conclusion:** Otolaryngologists must be able to deal with foreign bodies of all types and in the most varied patients. Knowing the correct technique for each type of material is fundamental to a successful conduct.

**Key words:** foreign; ear; nose.

#### 7755. Observational study on negative behavior in the immediate postoperative period in children submitted to adenoidectomy who received oral clonidine as preanesthetic medication

José Márcio Barcelos Costa Júnior, Vinícius Caldeira Quintão, Alexandre Rodrigues Ferreira, Laura Isoni Auad, Leandro Henrique Silva Maximiano, Luanna Rocha Vieira Martins, Mirian Cabral Moreira de Castro  
*Santa Casa de Belo Horizonte*

**Introduction:** Negative behavior in the immediate postoperative period (i-CNPO) occurs in children who underwent general anesthesia. i-CNPO may be due to delirium in anesthetic arousal (ADI) or pain. The only validated scale for ADI is PAED (Pediatric Anesthesia Emergence Delirium), considering DDA score  $\geq 10$ . For pain, one of the scales used is CHEOPS (Children's Hospital Eastern Ontario Pain Scale), having the same cut score. Oral clonidine can be used as preanesthetic medication and has positive effects on i-CNPO prevention.

**Methods:** Prospective and observational study to evaluate the incidence of i-CNPO in children submitted to adenoidectomy and who received clonidine as preanesthetic medication. Patients were evaluated by two trained observers using the PAED and CHEOPS scales at 1, 10, 20 and 30 minutes after extubation.

**Results:** Of 32 children, 22 were males and 10 females, with a mean age of 3.8 years. For the first observer, the mean score on the PAED scale was 2.8 in the 1st minute, 2.1 in the 10th, 1.4 in the 20th, and 1.1 in the 30th minute. For the second observer, mean scores on the PAED scale were 3 for the 1st minute, 1.9 for the 10th, 2.3 for the 20th and 30th minutes. Four children presented scores in the PAED  $\geq 10$ . Only one child presented a CHEOPS score  $\geq 10$  without treatment.

**Conclusion:** Oral clonidine becomes a viable option as a pre-anesthetic medication, being beneficial in the prevention of i-CNPO, with low cost and safe.

### **7757. Sudden hearing loss in a patient with Hashimoto's disease: a case report**

Marcella Campello Novaes, Fernanda Carneiro Corujeira de Britto, Lucas Daykson David Macedo de Oliveira, Gabriel Reis Castro  
Hospital Santo Antonio

**Introduction:** Hearing is a complex part of human physiology. Auditory processing consists in the transduction of mechanical sound waves to electric impulses along acoustic organs until brain processing. Sudden hearing loss isn't a rare event. Most cases are idiopathic, but a complete investigation must proceed. Thyroid gland dysfunction is associated with several systemic problems. Auditory acuity reduction is the most common otorhinolaryngological symptom of hypothyroidism.

**Resumed report:** Woman, 47 years old, brown skin, attended at Otorhinolaryngology Department of Hospital Santo Antonio, Salvador-BR, with an unilateral hearing loss for 3 days. No abnormalities detected on otoscopy. She was diagnosed 2 months before with Hashimoto's disease, using levothyroxine (50mcg/day). Audiometry revealed deep sensorineural hearing loss at left ear. Prednisone 1mg/kg/day and acyclovir were prescribed. New audiometry had no significant changes. Syphilis, CMV, herpes, HTLV, HIV and rubella serologies were negative. Internal acoustic meatus MRI had no abnormalities. Laboratory results after 6 days of symptoms: TSH 40 (0,34 - 5,60), T4L 0,49 (0,61 - 1,48), Anti-TPO 220 (< 5,61) e Antithyroglobulin 963 (< 4,11). Autoimmunity markers were also negative. The dose of levothyroxine was adjusted and joint follow-up between endocrinology and otorhinolaryngology departments was initiated for contralateral hearing preservation and Hashimoto's disease control.

**Conclusion:** Association between Hashimoto's disease and sudden hearing loss, in this case, is highly likely. It's important to investigate sudden hearing loss etiology, in order to better manage and treat such patients. Otorhinolaryngologists must have in mind all possible causes of sudden hearing loss and the complementary tests available.

### **7759. Nasosinusal Hemangiopericytoma:case report and literature review**

Lorena Cristina Peres Rodrigues Gomes, Mariele Bolzan Lovato, Gustavo Murta, Gustavo Balestero Sela, Rubianne Ligório de Lima, Rafaela Mabile Ferreira dos Santos

Department Of Otolaryngology Head And Neck Surgery Of The Brazilian Red Cross Hospital - Paraná Branch

**Introduction:** Nasosinusal Hemangiopericytoma is rare mesenchymal tumor, characterized by pattern of prominent perivascular growth. Affects preferentially patients in the sixth and seventh decades of life. The common clinical is unilateral nasal obstruction associated or not with epistaxis, with polypoid mass in the nasal cavity. Past history of trauma, prolonged steroid use and hypertension are possible risk factors. Treatment is surgical.

**Objective:** Report rare case of nasosinusal hemangiopericytoma and literature review.

**Resumed report:** A 19-year-old female patient sought otorhinolaryngologist complaining of left-sided epistaxis, of moderate intensity and difficult to control, beginning 2 months ago, associated with left nasal obstruction. Presented bleeding and friable mass in the left nostril. Contrast Computed Tomography of sinuses of the face showed expansive, intense enhancement, centered in the nasal cavity, with bone destruction and invasion of adjacent structures. Magnetic resonance imaging evidenced an expansive lesion in the ethmoid and left anterior nasal fossa with orbit extension, with neoplastic characteristics. Biopsy of the lesion was performed, and the initial anatomopathological examination was olfactory neuroblastoma, but after an immunohistochemical study nasosinusal hemangiopericytoma was diagnosed. The patient underwent tumor resection.

**Conclusion:** A rare case of nasal hemangiopericytoma was diagnosed in our service in a young patient with none of the risk factors cited above. Although rare, it should always be considered by

the otorhinolaryngologist in cases of vascular tumors, as it may be asymptomatic and invade adjacent structures. Early diagnosis and treatment are related to good prognosis and low rates of metastasis.

**Key words:** hemangiopericytoma; nasal obstruction; polypoid mass.

### **7761. Analysis of secondary outcomes in children undergoing adenoidectomy who received oral clonidine as preanesthetic medication**

José Márcio Barcelos Costa Júnior, Alexandre Rodrigues Ferreira, Sarah Nascimento Cardoso, Vinícius Caldeira Quintão, Mirian Cabral Moreira de Castro, Luanna Rocha Vieira Martins, Leandro Henrique Silva Maximiano  
Santa Casa de Belo Horizonte

**Introduction:** Negative behavior in the immediate postoperative period (i-CNPO) is a common complication in pediatric anesthesia, with incidence above 80%. This behavior may be due to delirium in anesthetic arousal (ADI) or postoperative pain. Clonidine has been studied as a medication capable of decreasing i-CNPO when used in the pre-anesthetic. As important as evaluating the reduction of i-CNPO is to assess the occurrence of secondary outcomes.

**Methods:** Prospective and observational study to evaluate the occurrence of the following secondary outcomes: time for extubation (discontinuation of sevoflurane to extubation), time in the post-anesthetic recovery room (PACU), time for acceptance of the 1st oral diet, episodes of nausea and Vomiting and other complications, as well as the satisfaction of the caregiver in the PACU in children undergoing anesthesia under general anesthesia who received oral clonidine as preanesthetic medication.

**Results:** Out of 32 children, the mean time for extubation was 21.3 minutes. The average time in the PACU was 67 minutes. The mean time between discharge from the PACU and the first oral diet was 68.3 minutes. There were no episodes of nausea and vomiting. There were two episodes of laryngospasm on awakening.

**Conclusion:** It is observed an increase in the time of awakening, but without a significant increase in the time of discharge of the PACU and acceptance of the first oral diet, therefore without clinical significance. Oral clonidine becomes a viable option as a preanesthetic medication, being beneficial in the prevention of i-CNPO, with low cost and safe.

### **7762. Odontogenic infection secondary to endodontic treatment complicated with masticatory and temporal abscess: case report**

Lucas Viomar de Lima, Ricardo Hiroyuki Takahashi Fujiwara, Mariana Nagata Cavalheiro, Juliana Cristina Mesti, Lucas de Azeredo Zambon, Eric Hiromoto Taninaka  
Hospital da Cruz Vermelha - Filial do Paraná (Red Cross Hospital - Paraná)

**Introduction:** Odontogenic infections may present, as a cause, tooth-alveolar infections. When affecting lower molars, they can evolve to subfascial spaces, although formation of temporal abscesses is unusual. Such abscesses occur with pain, edema, erythema, trismus, fever, and diagnostic confirmation comes from Tomography / Resonance of the Face and laboratory tests. Recommended treatment: hospitalization, support, empirical antibiotic therapy - secondarily directed by culture and antibiogram - and surgical drainage.

**Objective:** Report an unusual case of complex odontogenic infection and its therapeutic approach.

**Resumed report:** A 60-year-old female presented pain and edema on left hemiface after endodontic treatment of second lower molar, treated with oral antibiotics. After five days: clinical worsening, being referred to the Red Cross Hospital - Paraná, presenting trismus, edema in left temporal and malar regions, without floating point. Tomography and Resonance of the Face: net collection in anterior region of left masticator and temporal spaces, edema of the masticatory musculature. Proceeded with hospitalization and treatment with intravenous Ceftriaxone, Clindamycin and corticosteroid for 4 days, without improvement. Surgical collection

drainage conducted in left masticator and temporal spaces, keeping Penrose drain for 5 days. Favorable evolution and hospital discharge followed, with oral antibiotic and corticosteroid therapy for 10 days. Ambulatory denouement: no signs or symptoms of infection, referral to dentist for follow-up.

**Conclusion:** Odontogenic infections can evolve to extensive abscesses, systemic impairment and sepsis. Despite clinical efforts, early diagnosis and surgical approach are the most important measures on complex infections.

**Key words:** masticator space, temporal space, endodontic treatment, cervical abscess.

### 7763. Bilateral peripheral facial paralysis: Case Report

Dândara Bernardo Siqueira, Gustavo Mercuri, Norimar Hernandes Dias, Lucas Spina, Camila Sá de Melo Campos, Tamires Ferreira Siqueira, Cintia Vanette

Faculdade de Medicina de Botucatu - Unespmedicina de Botucatu - UNESP

**Introduction:** Bilateral facial nerve paralysis is a very rare clinical entity. The diseases often associated are infection, granulomatosis disease, intracranial tumors, neurophathies and idiopathic.

**Objective:** To report a rare case of bilateral peripheral facial paralysis, emphasizing the conduction and investigation of the cases and discussion of their differential diagnoses.

**Case report:** M.F.S. female, 49 years, hypothyroid, referred history with onset of right hemiface pain with ipsilateral hemicranial headache and otalgia. After 1 night, woke up with facial paralysis on the right and oral lesions. At the entrance examination after 5 days of the beginning of the symptoms, she presented lesions on the hard palate and lateral border of the tongue, bulging and hyperemia of the right tympanic membrane, facial paralysis grade VI of the House-Brockman Scale and reported that both mother and sister had already had episodes of unilateral facial paralysis. Initiated treatment with acyclovir, corticosteroids and antibiotics. Patient returned for reassessment after 4 days presenting contralateral facial paralysis grade VI. Patient was hospitalized for investigation with a diagnostic hypothesis of recurrent cranial polyneuropathy of the V and VII cranial pairs. Presented a focal enhancement of the facial nerve with enhancement of the cochlear nerve on the left. Patient showed progressive improvement of facial paralysis, mainly on the left.

**Conclusion:** Simultaneous presentation of bilateral VII nerve palsy is very rare in literature. Both the otorhinolaryngologists and the physicians should be aware of the diagnostic possibilities that cause this condition.

**Key words:** bilateral peripheral facial paralysis; differential diagnoses; cranial polyneuropathy.

### 7769. Epiglottis hypoplasia in a non-syndromic child: rare case report and literature review.

Lorena Cristina Peres Rodrigues Gomes, Paulo Antonio Monteiro Camargo, Vinicius Ribas Fonseca, Bruno Amaral Hay, Juliana Cristina Mesti, Michel Balvedi Nomura, Andreza de Carvalho Formiga

Department Of Otolaryngology Head And Neck Surgery Of The Brazilian Red Cross Hospital - Paraná Branch

**Introduction:** Structural congenital anomalies of laryngeal cartilages are relatively rare. Hypoplasia of the epiglottis, a rare condition, has been described as a clinically significant congenital abnormality. It is usually associated with other congenital malformations of the head, neck and limbs due to epiglottic formation at the beginning of embryological development. Symptoms range from severe respiratory changes, obstructive sleep apnea, dysphonia and dysphagia to minimal vocal changes or absence of symptoms. The manifestations occur mainly in childhood, and most of these children die early due to respiratory failure. Favorable prognosis is related to early diagnosis and immediate interventions in symptomatic cases. There is no surgical correction described, it is advised that patients should be monitored expectantly, with prevention of aspiration episodes.

**Objective:** Report a rare case of epiglottis hypoplasia and literature review.

**Resumed report:** A 2-year-old male patient sought otorhinolaryngologist complaining of recurrent tonsillitis, snoring and mouth breathing and. Had tonsils grade 4, didn't present syndromic phenotypes. However, there was cognitive deficit of speech delay. Previous morbid history of laryngomalacia and laryngeal malformation. He underwent flexible nasolaringotraheoscopy, where adenotonsillar hypertrophy, epiglottis hypoplasia with shortening of the arrieglottic folds and laryngomalacia type II were visualized. The vocal folds were normal. No tracheal changes were seen.

**Conclusion:** The 21st case of congenital epiglottic hypoplasia in children was diagnosed in our department. Representing the 4th case already described in the literature of this pathology in a non-syndromic and asymptomatic child from the laryngeal and swallowing points of view.

**Key words:** epiglottis; hypoplasia; congenital anomalies.

### 7770. Evaluation of the quality of tracheal intubation without neuromuscular blockers in pediatric patients submitted to adenoidectomy

José Márcio Barcelos Costa Júnior, Vinícius Caldeira Quintão, Alexandre Rodrigues Ferreira, Sarah Nascimento Cardoso, Leandro Henrique Silva Maximiano, Mirian Cabral Moreira de Castro, Bruno Holland Santos

Santa Casa de Belo Horizonte

**Introduction:** Tracheal intubation techniques without neuromuscular relaxation are used in some situations in pediatric anesthesia, especially when there is contraindication to neuromuscular blockers (NMB) or when the procedure is very short. This technique avoids the side effects of succinylcholine and the serious, but infrequent, side effects of the non-polarizing NMB. Pediatric otolaryngology surgeries are generally short and do not require NMB.

**Methods:** Prospective and observational study to evaluate the quality of tracheal intubation through the Goldberg scale. Patients received oral clonidine as preanesthetic medication. Induction made with sevoflurane 3%, fentanyl 2 mcg / kg, propofol 2 mg / kg and lidocaine 2mg / kg. The Goldberg scale classifies intubation conditions as "excellent" when the vocal cords are relaxed and the patient does not cough; "good" when the vocal cords are relaxed and the patient presents with a mild cough; "Bad" when the vocal cords are moving and the patient presents coughing or bucking and "impossible" to intubate when the vocal cords are closed and the jaw not relaxed. The incidence of airway related complications was evaluated.

**Results:** Of 32 children, 22 were males and 10 females, with a mean age of 3.8 years. In 31 patients intubation conditions were classified as "excellent", in one patient the intubation condition was considered "good". Two patients presented laryngospasm on awakening, being treated with manual maneuvers.

**Conclusion:** The tracheal intubation technique without BNM is considered safe, of high quality and with high success rates.

### 7773. Otic barotrauma in air travelers, a review of literature

Matheus Teles Faria de Araújo, Carlos Adriano Faria de Araujo, Lucas Moura Viana, Karina Mezalira, Renata Severo Violatti Limongi, Luciano Batista de Paula

Faciplac / Unirg

**Introduction:** The most common cause of otic barotrauma is flying and may cause intense otalgia, tympanic membrane ruptures and hearing loss.

**Objective:** Perform a review of literature in epidemiology and new managements of barotrauma in air travelers.

**Data Synthesis:** The literature searches were conducted in PubMed, Cochrane and UpToDate, using the key words "barotrauma", "air", "travel". It was included only reviews, written in english, from the last 10 years. It was excluded studies that were not related with air travel. Only four studies were included in this review.

**Conclusion:** In a commercial flight, 10% of adults and 22% of children had otoscopic evidence of changes to the ear drum. During flight, 84% of air travelers complained of barotrauma symptoms and 30% were not aware of any prevention measures. Infections or deviation of the nasal septum may be associated with eustachian tube dysfunction which can lead to barotrauma. One study has described facial nerve palsy as a rare complication of otic barotrauma. There is no evidence that topical nasal decongestants help to reduce ear pain. Oral pseudoephedrine had a statistical benefit in adults with a history of ear pain during flight, while in children had no effective compared to placebo. Most injuries heal with time, including hemorrhagic eardrum and tympanic membrane ruptures. Air travelers are often not aware of prevention measures to avoid otic barotrauma. Targeted health education is needed to reduce morbidity.

#### 7775. Rendu syndrome osler weber, advances in the treatment of recurrent epistaxe: a review of literature

Luciano Batista de Paula, Matheus Teles Faria de Araújo, Renata Severo Violatti Limongi, Karina Mezalira, Lucas Moura Viana, Carlos Adriano Faria de Araujo  
FACIPLAC / UNIRG

**Introduction:** Hereditary Hemorrhagic Telangiectasia (THH) or Osler Weber Rendu Syndrome is an autosomal dominant disease whose main symptom is recurrent epistaxis.

**Objective:** The objective of this study was to review the diagnosis of the disease and the different treatments and prevention of recurrent epistaxis.

**Data Synthesis:** We included articles from PubMed and SciELO, using the key words: Hereditary Hemorrhagic Telangiectasia, Osler Weber Rendu Syndrome and Epistaxis. Articles written in English, Portuguese and Spanish, published in 10 years, were included. Articles with repeated information were excluded.

**Conclusion:** The diagnosis of THH is based on Curaçao's diagnostic criteria that includes epistaxis, mucocutaneous telangiectasia, family history and visceral arteriovenous malformations. Epistaxis is the most common symptom in THH, and it is present in more than 90% of patients, appearing in most of them until the age of 20. The initial treatment of epistaxis is initiated only with conservative methods, with a low risk of complications. Hormone treatment has shown efficacy, but there are systemic side effects. Surgical treatment should be performed in patients with severe epistaxis. One of the advances reported in THH studies is the efficacy of Bevacizumab treatment. Treatment continues to prioritize the conservative, and other forms of treatment are approached according to the recurrence of epistaxis. In the past 10 years, the evolution of the research was remarkable and yet, there is a need for more studies on this subject, due to the inconsistency of the best alternative treatments of recurrent epistaxis, mainly without the side effects.

#### 7777. Inner ear barotrauma during diving and its management: a review of literature

Karina Mezalira, Carlos Adriano Faria de Araujo, Lucas Moura Viana, Renata Severo Violatti Limongi, Luciano Batista de Paula, Matheus Teles Faria de Araújo  
Faciplac / Unirg

**Introduction:** Inner ear barotrauma is the most serious form of aural barotrauma because of the injury to the cochleovestibular system, which may lead to permanent deafness and/or vestibular dysfunction.

**Objective:** The objective of this study was to review the epidemiology and management of inner ear barotrauma in divers.

**Data Synthesis:** Were included articles from MEDLINE, PubMed, Cochrane, SciELO and EMBASE, using the key words barotrauma, inner ear, diving. It was included only reviews, written in english or portuguese, since 2005. It was excluded articles which had repeated information. Divers suffering from inner ear barotrauma will complain of sensorineural hearing loss, loud roaring tinnitus, and persistent vertigo after diving. Once diagnosed, conservative

management is the recommended first line therapy. Therefore, the treatment can varies from observation and symptomatic of vertigo and nausea with anti-emetics and benzodiazepines to surgical exploration for repair of the round or oval window. The exploratory surgery is indicated for severe or persisting vestibular symptoms or hearing loss, deterioration of symptoms, or lack of improvement over 10 days indicating significant pathology.

**Conclusion:** Data shows that more than 1,000 diving-related injuries occurs annually, of which almost 10% are fatal. Barotrauma it might occur even when no decompression schedule violation took place. Initial treatment is to recommend complete bed rest with head elevated 30° and avoidance of any activities that can increase cerebrospinal fluid pressure. More studies it is necessary to find new ways to prevent this kind of pathology.

#### 7778. Ortner's syndrome, a review of literature

Renata Severo Violatti Limongi, Matheus Teles Faria de Araújo, Luciano Batista de Paula, Lucas Moura Viana, Carlos Adriano Faria de Araujo, Karina Mezalira  
FACIPLAC / UNIRG

**Introduction:** More than 100 years ago, Norbert Ortner identified the direct compression of the left recurrent laryngeal nerve by dilation of the left atrium due to mitral valve stenosis allows paralysis of the vocal fold generating a hoarseness.

**Objetivos:** In this study we will discuss the syndrome together with a systematic review.

**Data Synthesis:** MEDLINE, PubMed, SciELO and LILACS articles were included using the key words heart diseases/ complications, vocal fold paralysis, recurrent laryngeal nerve and hoarseness. It has been included only studies, written in english, spanish or portuguese since 2011. Studies with repeated information has been deleted. Ortner's syndrome may be present in several cardiovascular disorders; Cardiopulmonary; Neoplastic; Surgical; Iatrogenic; Inflammatory; Infiltrative; Infectious and traumatic, since the pathophysiology is directly related to compression, stretching or contraction of the left recurrent laryngeal nerve between the aorta and pulmonary arteries. The anatomic course of the left recurrent laryngeal nerve is longer and contorts the aortic arch, thus more often affected than the right course around the subclavian artery. In the investigation it is important to perform a complete otorhinolaryngological exam to rule out other pathologies. The main complementary tests that can be done in this investigation are: flexible videolaryngoscopy and telescope associated with stroboscopy, chest radiography and computer tomography of the brain, neck and mediastinum. The treatment is based on nerve damage, with or without possibility of recovery, and treating the underlying disease.

**Conclusion:** The otorhinolaryngologist must perform a correct and directed screening for a better resolution of the case.

#### 7780. Chronic post-trauma Rhinosinusitis

Eduardo Romero Sampaio Botelho, Gustavo Bachega Pinheiro, Carolina da Silveira Alves, Geizeane Morais da Cunha, Rosana Guimarães Rodrigues Alves, Maria Stella Jakeline Alves de Farias, Vanéli Silva Martins  
Hospital de Base do Distrito Federal

**Introduction:** Rhinosinusitis is any inflammatory process of the paranasal cavity lining mucosa. It usually occurs after an infection of upper airways by virus or allergic conditions.

**Objective:** Report a case of chronic post-trauma rhinosinusitis.

**Resumed report:** male, 67-year-old, in an outpatient clinic at the Base Hospital of the Federal District complaining of trauma in the right hemiface with a sawmill disc four months ago. It evolved with right nasal obstruction, besides deformity of the nasal pyramid, hyposmia and paraesthesia of the region. Sporadic episodes of right temporal headache. One month ago started cacosmia. In rhinoscopy, purulent discharge in middle and inferior nasal meatus on the right. CT of paranasal sinuses evidenced a fracture in the external and internal wall of the right frontal sinus, with fracture of papyraceous

lamina, multifragmentar fracture of the orbit floor and right maxillary sinus. Nasal videoendoscopy: pale nasal mucosa with edema and purulent discharge. Returned to the emergency room with significant worsening of symptoms, being referred to the surgical center for exploration of the right nasal cavity with removal of a piece of dental prosthesis. In addition, there was exploration of the frontal sinus with fracture of the external wall and removal of fragments of sandpaper and wood.

**Conclusion:** chronic rhinosinusitis is classified when there is a duration of more than 3 months, associated with persistent residual symptoms such as cough, rhinorrhea and nasal obstruction. Changes in local anatomy also contribute, as in the case due to the foreign bodies.

**Key words:** chronic rhinosinusitis, trauma.

#### 7783. Chronic sphenoethmoidal rhinosinusitis and amaurosis

Eduardo Romero Sampaio Botelho, Gustavo Bachega Pinheiro, Rosana Guimarães Rodrigues Alves, Carolina da Silveira Alves, Geizeane Morais da Cunha, Vanéli Silva Martins, Maria Stella Jakeline Alves de Farias

Hospital de Base do Distrito Federal

**Introduction:** The infectious process that most easily spreads into the peri-orbital soft tissues is paranasal sinusitis. Orbital complications of sinusitis were classified by Chandler in 5 groups, with intraconal abscess and cavernous sinus thrombosis being the most associated with loss of vision.

**Objectives:** To describe a case of amaurosis associated with chronic rhinosinusitis.

**Resumed report:** 45-year-old, female, attended the Outpatient Clinic of the Base Hospital of DF in March / 2017, with a history of intermittent headache for 3 years, which evolved in the last 6 months with severe left hemiface pain. During the episode, started amaurosis in the left eye of gradual installation (3 days). She also complained of nasal obstruction, posterior rhinorrhea and cacosmia. She used ceftriaxone for 7 days with improvement of symptoms.

Carried out complementary tests: Magnetic resonance imaging of the sinuses on 07/13/16: material with hyposignal on T1 and heterogeneous hypersignal on T2 filling the sphenoidal sinus E and ipsilateral ethmoidal cells with peripheral enhancement of underlying mucosa. Enhancement of the major left ocular extrinsic musculature with a slight enhancement of the left optic nerve.

At the moment, asymptomatic except for amaurosis on the left. Waiting for left anteroposterior ethmoid and sphenoidal sinusectomy, under topical corticoid use.

**Conclusion:** Early diagnosis and the institution of individualized treatment, considering etiology, aggressiveness and infection localization should be instituted to avoid dissemination and involvement that can lead to serious complications.

**Key words:** sinusitis, visual loss, orbital infections.

#### 7785. Esophageal foreign body with complication of cervical abscess

Eduardo Romero Sampaio Botelho, Gustavo Bachega Pinheiro, Carolina da Silveira Alves, Rosana Guimarães Rodrigues Alves, Geizeane Morais da Cunha, Maria Stella Jakeline Alves de Farias, Vanéli Silva Martins

Hospital de Base do Distrito Federal

**Introduction:** The esophageal foreign body comprises 80% of all foreign bodies of the digestive tract. They should be diagnosed early to avoid complications, such as deep cervical abscess. Commonly reported symptoms are odynophagia, dysphagia, fever, pain at cervical mobilization and dyspnea.

**Objective:** To describe a case of esophageal foreign body that evolved with cervical abscess.

**Resumed report:** 40-year-old female patient with mental retardation came to the Otorhinolaryngology Emergency Room of the Base Hospital of DF, reporting 7 days of clinical treatment of tonsillitis without improvement, with complaints of odynophagia, dysphagia and fever after choking with food. She had discreet cervical bulging

and sialorrhea. CT scan of the neck without contrast with findings: foreign body with bone density in the esophagus proximal (C6 - C7 level), obstructing and transfixing esophageal lumen, in addition to collection with heterogeneous density and septations, paraesophageal on the right side, measuring 5.2 x 3.6 x 3.7 mm. Removal of rib bone with alligator clamp through rigid esophagoscopy and exploratory cervicotomy at the medial border of the sternocleidomastoid on the right, with drainage of darkened and bloody secretion. She remained hospitalized with venous antibiotic therapy for 7 days and was discharged for outpatient follow-up.

**Conclusion:** In adults, fishbone, chicken bone and meat fragments are the most common foreign bodies, being the second most common urgency in digestive endoscopy. CT is a method of high sensitivity and specificity to assess location and possible complications, allowing the early approach.

**Key words:** Foreign Body, Esophagus, Cervical abscess.

#### 7786. Laryngeal Tuberculosis: rare case and literature review

Lorena Cristina Peres Rodrigues Gomes, Michel Balvedi Nomura, Mariana Nagata Cavalheiro, Ian Selonke, Paulo Antonio Monteiro Camargo, Bianca Simone Zeigelboim, Vinicius Ribas Fonseca

Department of Otolaryngology Head and Neck Surgery of the Brazilian Red Cross Hospital - Paraná Branch

**Introduction:** Laryngeal tuberculosis is caused by Mycobacterium tuberculosis, corresponds to one of the most common granulomatous laryngeal diseases. Accounts for less than 1% of extrapulmonary tuberculosis. The main symptoms are: hoarseness, dysphagia and odynophagia. Vocal cords are the most affected site and its lesions can present in several forms: polyps, ulcerated, nodular and inflammatory.

**Objective:** Report rare case of laryngeal tuberculosis and review the literature.

**Resumed report:** Female patient, 75 years old, sought otorhinolaryngologist for sensation of foreign body in oropharynx and odynophagia for solids. Reports weight loss of 5kg and sporadic cough. Videolaryngoscopy showed increased volume Marianain the epiglottis and left glosso-epiglottic ligament. Contrast Computed Tomography of the neck and thorax demonstrated: left epiglottic surface thickening with left pyriform sinus obliteration; diffuse pulmonary alterations compatible with tuberculosis in activity due to bronchogenic dissemination. Bronchoscopy showed lesions suggestive of endobronchial tuberculosis. Biopsy of respiratory mucosa demonstrated focal tuberculoid granuloma and rare BAAR positive structures. Bronchial lavage without abnormalities. Laryngeal biopsy reveal chronic non-necrotizing granulomatous mucositis, negative for AFB, fungi and absence of malignancy. Diagnosis of pulmonary and laryngeal tuberculosis was made from the strongly suggestive clinical data and the presence of granulomatous lesion in the laryngeal biopsy, even though it was negative for AFB.

**Conclusion:** Although laryngeal tuberculosis is rare, is highly contagious and requires high degree of suspicion owing to its non-specific presentation. The importance of differential diagnosis, especially with laryngeal carcinoma, due to similar clinical, laryngoscopic presentations and same socioeconomic distribution, is highlighted.

**Key words:** tuberculosis; granulomatous laryngeal; hoarseness.

#### 7787. Maxillary Sinus Carcinoma

Eduardo Romero Sampaio Botelho, Gustavo Bachega Pinheiro, Geizeane Morais da Cunha, Rosana Guimarães Rodrigues Alves, Carolina da Silveira Alves, Vanéli Silva Martins, Maria Stella Jakeline Alves de Farias

Hospital de Base do Distrito Federal

**Introduction:** Maxillary sinus carcinoma is uncommon and represents 0.2% -0.8% of neoplasms, 3% of head and neck carcinomas and 80% of paranasal sinus tumors. Most of the tumors that occur in the maxillary antrum are of epithelial origin and epidermoid carcinomas correspond to more than 80% of all cases of malignant neoplasms. Most patients have advanced disease when symptoms appear.

**Objective:** Describe a case of left maxillary sinus tumor.

**Resumed report:** female, 32-year-old, attended the Emergency Room of the Base Hospital of the Federal District, complaining of left nasal obstruction for 6 months, and pain in the ipsilateral face. She denied rhinorrhea, epistaxis or decreased visual / hearing acuity. At the initial clinical examination, presented bulging of the left maxillary topography, with continuous bulging of the left hard and soft palates. Anterior rhinoscopy without visible mass and with left bloody discharge in the nasal cavity. There were no adenomegalias and palpable cervical masses. CT of the paranasal sinuses showed a massive expansive lesion with epicenter in the left maxillary sinus, with soft tissue density, that invaded left nasal cavity, oral cavity and nasopharynx. Performed biopsy of the lesion after visualization with microscopy. Awaits anatomopathological study.

**Conclusion:** Primary lesions of the frontal and sphenoid sinuses are uncommon. It is basically a disease of men and presents most commonly in the sixth decade. Spread out the sinuses is mostly the presentation. Surgical resection followed by postoperative radiotherapy is recommended for the treatment.

**Key words:** maxillary sinus carcinoma, neoplasms, sinus tumors.

#### 7788. Melanoma in the nasal mucosa

Eduardo Romero Sampaio Botelho, Maria Stella Jakeline Alves de Farias, Vanéli Silva Martins, Carolina da Silveira Alves, Rosana Guimarães Rodrigues Alves, Geizeane Morais da Cunha, Gustavo Bachega Pinheiro

Hospital de Base do Distrito Federal

**Introduction:** Melanoma presents in 90% of cases as a skin tumor, with mucous melanoma being approximately 5%. Malignant melanoma of the nasosinusal mucosa is extremely rare, has no gender preference and frequently presents with late symptoms of nasal obstruction and epistaxis.

**Objectives:** To describe a case of melanoma in the nasal mucosa.

**Resumed report:** 68-year-old female patient, Jehovah's Witness, sought out the Emergency Room of the Base Hospital of DF, referring nasal obstruction for 2 months, with intermittent episodes of small epistaxis. At the initial clinical examination, there was a bulging of the right lateral wall of the nose; in rhinoscopy, mass in the right nasal fossa, with a foul-smelling odor that occupied the entire nasal vestibule and prevented the visualization of posterior structures. An incisional biopsy with cold scalpel was performed. She remained hospitalized for 72 hours after the procedure, with posterior nasal plug due to bleeding during the biopsy. Result of biopsy and immunohistochemistry compatible with melanoma infiltration. Scintigraphy with osteogenic reaction found in the paranasal and maxillary sinuses that can correspond to the implant. Patient in current surgical treatment schedule.

**Conclusion:** Mucosal melanoma has an unpredictable clinical course. Nasal melanomas, although rare, should be included in differential diagnoses of unilateral nasal tumors, being treated primarily with surgery and radiotherapy. Early diagnosis is important and should be considered by the otorhinolaryngologist, since the complaint of nasal obstruction is generic and the patient may be mistakenly treated for a sinusitis condition, delaying treatment.

**Key words:** melanoma, nasal tumor, paranasal sinuses.

#### 7791. Orbital and intracranial complications due to acute rhinosinusitis

Eduardo Romero Sampaio Botelho, Geizeane Morais da Cunha, Rosana Guimarães Rodrigues Alves, Carolina da Silveira Alves, Vanéli Silva Martins, Maria Stella Jakeline Alves de Farias

Hospital de Base do Distrito Federal

**Introduction:** orbital are the most frequent complications of rhinosinusitis, mostly among youngsters and children. Simultaneous complications involving orbital and intracranial space are extremely rare, but must be treated aggressively because they offer a high rate of morbidity and mortality.

**Objective:** Report a case of orbital and intracranial complications due to acute rhinosinusitis.

**Resumed report:** 16-year-old man, came to Otorhinolaryngology Emergency Room with frontal headache for 5 days, after a flu, with fever and rhinorrhea which evolved, two days later, with left frontal and upper eyelid edema. Deny visual changes or lowering of consciousness. Physical examination: colored, hydrated, drowsy. Preserved eye movement. Oroscopy with yellowish post nasal secretion. Rhinoscopy: congestion of nasal mucosa. Paranasal sinuses CT: left maxillary concealment, frontal and ethmoidal sinuses, blurring of extra left orbital fat, compatible with periorbital cellulitis. Due to the neurological condition, a CT scan of the skull with contrast showed a discreet subdural empyema, without surgical management by neurosurgery with indication of antibiotic therapy for 6-8 weeks and tomographic control. Left pannusinectomy performed by Otorhinolaryngology. Patient remains in use of ceftriaxone, metronidazole and vancomycin according to the orientation of infectology, with good clinical evolution.

**Conclusion:** Intra-cranial complications of rhinosinusitis occur due to the extension of the infectious process by contiguity or hematogenous pathway, and may evolve to meningitis, meningoencephalitis, sub or extradural meningeal empyema. It is worth noting that 50% of the cultures of the cerebrospinal fluid are sterile. Diagnosis is due to clinical suspicion associated with CT.

**Key words:** rhinosinusitis, complications of rhinosinusitis, empyema.

#### 7792. Ectopic lingual thyroid

beatrix Silveira Zalla, Mariana Baptista Mazzotti, Cauê Duarte, Heloisa dos Santos Sobreira Nunes, José Antônio Pinto  
Núcleo de Otorrinolaringologia e Cirurgia de Cabeça e Pescoço de São Paulo - Nosp

**Introduction:** Ectopic thyroid tissue forming a mass at the tongue base is termed lingual thyroid. It is a developmental anomaly due to interrupted descent of the embryologic gland anlage. Otorhinolaryngology through laryngeal microsurgery was one of the first medical specialties to benefit from the use of laser in surgical procedures. The CO<sub>2</sub> laser is the most used in the medical field. CO<sub>2</sub> laser offers the advantages of precise cutting, haemostasis and minimal morbidity.

**Objectives:** In the present paper, we report one case of ectopic lingual thyroid in which CO<sub>2</sub> laser was used to endoscopically resection.

**Resumed report:** A 19-year-old female patient, presented flu symptoms evolving with odynophagia with level 7 pain scale and intense dry cough for 30 days. Nasofibrolaryngoscopy examination showed a bulging in the middle region of the tongue base with smooth vascularized surface, occupying the entire vallecula and pushing the epiglottis into the laryngeal vestibule. Surgical treatment was performed with direct laryngoscopy with 0 degree optic and microscope aid and resection of total thyroid mass with CO<sub>2</sub> laser, evolving with good healing.

**Conclusion:** The lingual thyroid is a rare case and should be included in the practice of otorhinolaryngologists through clinical examination, nasofibrolaryngoscopy and scintigraphy. The surgical procedure for removal of the ectopic thyroid can easily be done through laryngoscopy and resection with CO<sub>2</sub> laser.

**Key words:** Thyroid; Ectopic; Head and Neck.

#### 7793. Silent sinus syndrome

Eduardo Romero Sampaio Botelho, Gustavo Bachega Pinheiro, Carolina da Silveira Alves, Geizeane Morais da Cunha, Rosana Guimarães Rodrigues Alves, Maria Stella Jakeline Alves de Farias, Vanéli Silva Martins

Hospital de Base do Distrito Federal

**Introduction:** Silent sinus syndrome is a rare, usually asymptomatic clinical entity characterized by enophthalmia and hypoglobus, caused by progressive atelectasis of the maxillary sinus. Decreased sinus volume is secondary to centripetal collapse of the antral walls. It usually occurs between 3rd and 5th decades of life.

**Objective:** To report a case of silent sinus syndrome.

**Resumed report:** A 39-year-old male construction worker, previously healthy, came to the otorhinolaryngology outpatient clinic of the Federal District Base Hospital complaining of nasal obstruction, facial pain in the right ocular and ethmoidal topographies, post-nasal secretion without olfactory alteration, for 10 years. Eventually, he reported pain in the right maxillary topography and blurred vision. At clinical examination, oroscopy without changes. Rhinoscopy with inferior turbinate hypertrophy to the left, deviated nasal septum to the right and absence of secretion. He had paranasal sinus CT showing hypoplasia of the maxillary sinus on the right with mucosal thickening, inferior turbinates hypertrophy and septal spur for right and right onophthalmia. Patient awaits nasal videoendoscopy. Indicated right maxillary antrostomy, with anterior ethmoidectomy and septoplasty.

**Conclusion:** Silent sinus syndrome is a pathology that, although rare, should always be suspected in patients with enophthalmos not explained by other factors. The radiological findings with involvement of the orbit and the maxillary sinus confirm the diagnosis. The endoscopic evaluation confirms the findings of obstruction of the middle meatus and lateral collapse of the posterior fontanelle. Treatment requires surgical aeration of the involved sinus.

**Key words:** silent sinus syndrome, enophthalmia.

#### 7794. Sinonasal myiasis: a case report

Fhrancis Boechat de Marcos, Júlia Rodrigues Marcondes Dutra, Eveline Tasca Rorigues, Maria Eugenia Pedruzzi Dalmashio, Edna Patricia Charry Ramirez, Larissa Maria Alencar Xerez, Thais Dias da Fonseca

Universidade Federal Fluminense

**Introduction:** Myiasis is an ectoparasitic infestation by the dipterous larvae, which feed on host's necrotic or living tissue. Although it seems to be a rare condition in humans, cases happen in tropical or subtropical locations where level of sanitation and density of prevailing fly population favors; besides, elder people, mentally retarded or drug addicts are prone too. The incidence is probably underreported in general. In Otorhinolaryngology, mucosal infestations means a clinical challenge, due mainly to previous wounds, by obligate and facultative parasites. It had been observed that a higher prevalence of deaths are associated with nasal cavity infestations due to extensive necrosis and destruction of intranasal tissue, caused by the maggots, which can reach profound areas.

**Objectives:** Report a case of nasal cavity myiasis diagnosed by Otorhinolaryngology Service of Hospital Universitário Antônio Pedro.

**Resumed report:** M.R.P., 68, presented anterior and posterior nasal bleeding, with larvae throughout the nasal cavity. Under nasofibroscopy, there was an extensive septal perforation, total inferior turbinate destruction and partially of the lamina papyracea, vestibule fistula to subcutaneous all on right. There were larvae on maxillary, left ethmoidal sinuses, cavum and on right Eustachian tube. This treatment was effective, with all visible larvae being extracted and Ivermectin in a folded dose, developing atrophic rhinitis later.

**Conclusion:** This zoonosis remains neglected in Brazil, continuing to mutilate poor people in a serious or even permanent way. Physicians need to report all the cases diagnosed, so new policies can be adopted for patient's benefit.

#### 7795. Townes brocks syndrome

Eduardo Romero Sampaio Botelho, Rosana Guimarães Rodrigues Alves, Geizeane Morais da Cunha, Carolina da Silveira Alves, Gustavo Bachega Pinheiro, Vanéli Silva Martins, Maria Stella Jakeline Alves de Farias

Hospital de Base do Distrito Federal

**Introduction:** Townes Brocks syndrome is a rare, autosomal dominant malformation characterized by a triad of anorectal, hands and external ear malformations, with a prevalence of 1: 250,000 individuals.

**Objective:** Describe a case of Townes Brocks syndrome with otorhinolaryngological manifestations.

**Resumed report:** Female, 3 years and 9 months, attended the Outpatient Clinic of the Base Hospital of the Federal District for hearing evaluation, without speech or hearing complaints. Reported recurrent tonsillitis. At the initial clinical examination, right otoscopy with microtia and narrowed external acoustic meatus without seeing the tympanic membrane and left ear without alterations. In oroscopy, tonsils grade II; in rhinoscopy, any alterations. Peripheral facial paralysis on the right. Carried a BERA (May 2015): sensorineural hypoacusis on the right and conduction hypoacusis on the left. She had other dysmorphia: umbilical hernia, anterior anus, polydactyly in the left hand, single kidney, persistent left superior vena cava. Mastoid CT (03/13/17): right auricle dysmorphism; right external acoustic meatus low settling and obliqued path; Accessory ossicle neoarticulate to the temporal bone; hypopneumatization of middle ear box and right mastoid cells filled by material with soft-tissue density; Right ossicular chain present with dysmorphism; Cochlea without gross abnormalities; Discrete dilation of vestibular aqueducts; Diffuse tapering of the facial nerve canal. At present, awaiting conditioned audiometry and new BERA.

**Conclusion:** outer ear abnormalities in this syndrome typically include small ears, small antihelix, with pre-auricular marks. Hearing loss ranges from mild to profound, is common, and needs to be diagnosed.

**Key words:** Townes-Brocks syndrome, ear, malformations.

#### 7798. Case report: anterior ethmoidal sinus mucocele in pediatric patient

Eveline Tasca Rorigues, Júlia Rodrigues Marcondes Dutra, Fhrancis Boechat de Marcos, Gustavo Felix, Thais Dias da Fonseca, Edna Patricia Charry Ramirez, Maria Eugenia Pedruzzi Dalmashio

Universidade Federal Fluminense

**Introduction:** Mucoceles are benign lesions, due to obstruction of the paranasal sinus ostium that leads to accumulation of secretion, scaling and inflammation, associated with remodeling of the surrounding bone walls. In only 25% of cases it occurs in the ethmoidal sinus. Its pathophysiology is not yet accurate. It is believed that post-inflammatory complications associated with obstruction of drainage ostium leads to accumulation of mucus, as well as previous sinus surgery or facial trauma. In the pediatric population, it is rare and the diagnosis is based on the clinical history, ocular alterations and optic nerve lesion confirmed by the radiological examination.

**Objective:** To report a case of mucocele in anterior ethmoidal sinus of an 8 years old patient.

**Clinical case:** P.P.F.N. 8 years old, with right intermittent ocular proptosis for 3 months. Negative history of trauma or recurrent nasosinus infection. He was submitted to CT and MRI of the sinuses, showing a liquid content lesion filling the anterior right ethmoidal sinus, causing erosion of the papyraceous lamina and bulging of the sinus walls. A complete right anterior frontoethmoidectomy was performed with removal of the hyperplastic lining after drainage of mucoid secretion, associated with bilateral maxillary sinusectomy and bilateral turbinectomy.

**Conclusion:** In the pediatric population, mucocele is very rare, when present, associated with factors such as trauma, surgery, chronic rhinosinusitis, allergy or cystic fibrosis. The patient had none of these factors.

#### 7800. Primary oropharyngeal tuberculosis: a case report

Camila Bastos Xavier Vassimon Silva, Antonio Augusto Freitas Junqueira, Nathalia de Paula Doyle Maia, Luiza Zanette de Carvalho, Carlos Augusto Santos Furtado Pereira de Souza, Hana Caroline Morais Higa, Janaína Neto Machado

Hospital Central da Aeronáutica

**Introduction:** Tuberculosis is an infectious contagious disease caused by Mycobacterium tuberculosis which primarily affects the lungs, although it may affect other organs and systems. The emergence of AIDS as a worldwide epidemic and the appearance of multi-resistant strains of Koch's Bacillus, cases of pulmonary tuberculosis and its extrapulmonary forms have increased.

Oropharyngeal tuberculosis is uncommon and usually secondary to pulmonary tuberculosis, the primary form being rare. At this location, the palatine tonsils are most affected, with the most common symptoms being high dysphagia and odynophagia.

**Objectives:** Report a case of primary oropharyngeal tuberculosis in an immunocompetent patient.

**Resumed report:** I.M.R, female, 21 years old, with recurrent tonsillitis. She has been treated with different classes of antibiotics and had no previous history of lung diseases, immunodeficiencies, smoking, weight loss or contact with tuberculosis patients. Oropharyngeal examination showed Brodsky grade II tonsils, without any oropharyngeal abnormalities. There were no palpable adenomegalias in the cervical region. The patient underwent adenotonsillectomy and surgical specimens were submitted to the histopathology. Laboratory analysis showed chronic granulomatous inflammatory process, areas of central caseous necrosis and giant cells, compatible with tuberculosis. The special stains were negative for the research of microorganisms, including fungi. The pneumological evaluation did not show any clinical or radiological signs of disease.

**Conclusions:** Primary oropharyngeal tuberculosis is an uncommon diagnosis. However, since Brazil is an endemic country, its adenotonsillar form should be remembered as a differential diagnosis in cases of pharyngotonsillitis.

**Key word:** Mycobacterium tuberculosis; Tuberculosis; Adenotonsillar hypertrophy.

### 7803. Aggressive sinonasal capillary haemangioma: a case report

Thaizza Cavalcante Correia, Tamillys Batista de Figueiredo Andrade, Gabriel Reis Castro, Gustavo Lima Cardoso, Alessandro Tunes Barros  
Hospital Santo Antonio - Osid

**Introduction:** Sinonasal capillary haemangioma represents 2,5% of all haemangioma. Symptoms include nasal obstruction, epistaxis and rhinorrhea. The most common origin sites are inferior turbinate and nasal septum. Sinonasal hemangioma is a rare condition with few cases reported in the literature.

**Objectives:** To report a case of sinonasal capillary haemangioma at left nasal cavity extending to ipsilateral maxillary, ethmoid and sphenoid sinuses, addressing pathogeny, image based diagnosis and treatment, and discussing the atypical aspect and lesion's aggressiveness.

**Resumed report:** LCA, 55 years old, male, complaining about epistaxis from the left nasal cavity for 5 months. After diagnostic procedures, including image and biopsy, the patient was submitted to endoscopic sinus surgery, with extensive resection of the lesion. Anatomopathological analysis revealed a lobular capillary haemangioma. Surgery was effective for a short period of time, occurring early and severe recurrence. The patient was submitted to new endoscopic sinus surgery with an even larger resection after 2 months of recurrence, using sinus burs in the left nasal cavity. An excellent result was then accomplished.

**Conclusion:** Lobular capillary haemangioma should always be considered as a differential diagnosis of unilateral nasal cavity tumors, although it rarely appears at sinuses. A biopsy is an essential step to an accurate diagnose and also to a correct management of such patients. Early recurrence should always be a concern, even in those cases where apparently all compromised tissue and all insertion points have been removed, especially because there is still poor outcome data available.

### 7805. Facial palsy secondary to cholesteatomatous otitis media

Soraya Elias Russo, Alexandre Cardoso Albuquerque, Tarssius Capelo Cândido, Agenor Alves de Souza Junior, Walter dos Reis Siqueira Junior, Luiza Anunciação França, Pedro Henrique Almeida Nascimento

Hospital Universitário da Universidade Federal de Juiz de Fora

**Case report:** F.F.G, female, 45 years old, started peripheral facial paralysis in the right hemiface in the course of a

Cholesteatomatous Otitis Media(COM). Computed tomography (CT) showed ossicular chain destruction associated with lesion in the tympanic portion of the facial nerve (FN). Patient was submitted to right tympanomastoidectomy under microscopy and decompression of the FN in its tympanic portion, without opening of its perineurium due to the infectious process. There was an important improvement of the condition, with an almost complete recovery of facial paralysis after 120 days postoperatively.

**Discussion:** Facial palsy is one of the possible extracranial complications of a Cholesteatomatous Otitis Media and is indicative of a surgical procedure as soon as possible due to its higher potential of the VII pair when compared to the acute otitis media. COM may involve any portion of the facial nerve. The tympanic segment and the second knee are the most affected. CT is important for scheduling the surgical procedure. It is necessary to identify the affected segment and, later, opening the bone canal for decompression, without opening of the perineurium to avoid spreading infection to the nerve.

**Conclusion:** The case presented evidences the need of early topodiagnosis of facial nerve lesions secondary to OMCC due to the great risk of evolution to irreversible sequels. The surgical approach in a timely manner can reduce unfavorable outcomes.

### 7809. Spontaneous cerebrospinal fluid fistula: case report

Larissa Odilia Costa Binoti, Juliana Cagliari Linhares Barreto, Bernardo Relvas Lucas, Luzia Abraão El Hadj, Camila Bae Uneda, Daniella Leitao Mendes, Alexandre José de Sousa Cunha  
Hospital Naval Marcílio Dias

**Introduction:** The cerebrospinal fluid (CSF) fistula results from arachnoid, dura mater, bone and mucosal lesion resulting in extracranial CSF flow. Fistulas are didactically classified due to its origin as nasal or otological. The pathology manifeste in varied clinical ways, such as watery nasal or otologic secretions and orthostatic headache, offering a potential risk for central nervous system infection.

**Objective:** To demonstrate the importance of the otorhinolaryngologist in the diagnosis and treatment of this pathology, avoiding meningeal infection and its sequelae.

**Case report:** A.S.V.S, 35 years old, female, complaining about unilateral watery nasal secretion for one year, with no other symptoms and no response to clinical treatment. Nasal endoscopy showed hyaline secretion draining from spheno-ethmoidal recess. The cranial tomography showed no abnormality. Since the patient had no history of previous surgery or trauma, spontaneous cerebrospinal fluid fistula was suspected. During the surgical approach, encephalocele on the lateral wall of the left sphenoid sinus was detected. The patient presented favorable evolution after surgical management.

**Conclusion:** This case reinforces the importance of considerer ordinary symptoms, which can represent pathologies with potential to develop life risk complications without an early diagnose and properly management.

### 7815. Neurosensory hearing loss after infection by zika virus in adult: case report

Nathalia Parrode Machado Barbosa, Natália Barros de Melo, Rebeca Alevato Donadon, Matheus Alves Farah, André Luiz Lopes Sampaio, Juliana Gusmão de Araujo, Paulo César Pezza Andrade  
Hospital Universitário de Brasília

**Introduction:** Zika is an acute viral disease characterized by pruritic maculopapular rash, intermittent fever, nonpurulent conjunctival hyperemia without pruritus, arthralgia, myalgia, and headache. It usually presents benign and self-limited evolution, but in some cases can lead to neurological manifestations such as encephalitis and Guillain Barré syndrome. Recent studies of microcephaly following the zika virus point to a proportion of patients with sensorineural hearing loss ranging from 7.1% to 9%, although studies in adults are practically non-existent.

**Objectives:** To report a case of a patient attended at the Otorhinolaryngology Unit of the University Hospital of Brasília who developed sensorineural hearing loss after viral encephalitis by Zika.

**Resumed report:** Patient 35 years old, previously healthy, teacher, in September-16 presented fever, myalgia, maculopapular rash, intense headache, evolving with decrease of consciousness level and alteration of focal neurological signs. He had been hospitalized in an intensive care unit with mechanical ventilation. Was proposed diagnosis of viral encephalitis caused by Zika, with positive serology for this virus. Later he presented hearing loss, dizziness and seizure. Audiometry and Immittanciometry (26.10.2016) with profound sensorineural hearing loss on the right and severe on the left, type A curve and absence of acoustic reflexes. Nuclear magnetic resonance imaging (27.09.16) was normal.

**Conclusion:** Infection with the Zika virus can lead to changes in the auditory threshold. Subsequent studies are necessary to demonstrate this causal relationship and elucidate the mechanisms that lead to auditory dysfunction in this setting.

**Key words:** Zika, Hearing Loss, Encephalitis.

#### 7821. Case Report - Orbital and Intracranial Complication

##### Due to Acute Rhinosinusitis.

Rebeca Alevato Donadon, Bertha Catharine Corrêa Pereira Silva, Nathalia Parrode Machado Barbosa, Natália Barros de Melo , Matheus Alves Farah, Gustavo Subtil Magalhães Freire, André Luiz Lopes Sampaio

Hospital Universitário de Brasília

**Introduction:** Rhinosinusitis is an inflammation of the paranasal sinus and nasal cavity that is diagnosed by symptoms and can be classified as viral, post-viral and bacterial. In child, diagnostic criteria are the presence of two or more symptoms as nasal obstruction, anterior/posterior nasal drainage, facial pain, cough, suggestive alterations in computed tomography and presence of endoscopic signs such as mucopurulent rhinorrhea - the presence of nasal congestion or rhinorrhea are mandatory. Complications of acute bacterial rhinosinusitis is most common in pediatric population due to anatomical factors and the high incidence of upper respiratory tract infections in this age group. The orbit is the most common structure involved in complicated sinusitis and then intracranial and bony complications.

**Objectives:** To report a case of acute rhinosinusitis that evolved with simultaneous complications: orbital and intracranial. Resumed report A 12-year-old male patient, previously healthy, referred to Otorhinolaryngology with fever, severe headache, nasal obstruction, cough and purulent rhinorrhea for 1 week. After 5 days of onset of symptoms he developed proptosis, chemosis, ophthalmoplegia, mydriatic and non-photoreceptor pupils, and amaurosis on the right eye. Sinus and cranial computed tomography was performed and showed pansinusitis, signs of orbital cellulitis and cavernous sinus thrombosis, later confirmed by cranial angio-tomography. The patient was hospitalized for venous antibiotic therapy. Due to non improvement, he underwent nasosinus endoscopic surgery with good clinical response.

**Conclusion:** Simultaneous complications envolving the orbit and the intracranial space are extremely rare and should be early recognized to avoid severe and permanent complications.

**Key words:** rhinosinusitis, cellulitis, thrombosis.

#### 7828. A Intracochlear schwannoma case report

Bertha Catharine Corrêa Pereira Silva, André Luiz Lopes Sampaio, Rebeca Alevato Donadon, Matheus Alves Farah, Natália Barros de Melo , Paulo César Pezza Andrade, Nathalia Parrode Machado Barbosa

Hospital Universitário de Brasília

**Introduction:** Intralabyrinthine schwannomas are benign, slow-growing tumors, classified into groups according to inner ear structures that are affected: intravestibular, intracochlear, intravestibulocochlear, transmodiolar, transmacular, transotic, and tympanolabyrinthine. Schwannomas confined to the cochlea are extremely rare. The main symptom of the disease is hearing loss, often associated with tinnitus. The diagnosis is made by high resolution magnetic resonance imaging.

**Objectives:** To describe the clinical and radiologic features and audiometric testing results of an intracochlear schwannoma in a 55-year-old man after a year follow-up period.

**Resumed report:** A patient with a 1-year history of progressive hearing loss in his right ear, combined with ipsilateral persistent tinnitus. Audiometry revealed a light sensorineural hearing loss in the right ear and normal hearing in the left ear. Magnetic resonance imaging showed a nodular intracochlear lesion, highlighted in T2 and with gadolinium, with approximately 2mm. There were no radiologic changes on imaging studies during the follow-up period, A wait-and-scan policy was chosen as the lesion remained stable with no considerable growth and the surgery could result in profound sensorineural hearing loss.

**Conclusion:** Intralabyrinthine schwannoma is an under-reported cause of sensorineural hearing loss, although higher field magnets with refined magnetic resonance imaging sequences have increased the diagnosis. Surgery frequently is not indicated, because hearing preservation is not possible during its removal.

**Key words:** intracochlear schwannoma - sensorineural hearing loss - acoustic neuroma - temporal bone tumor - magnetic resonance imaging.

#### 7832. Rhinocerebral mucormycosis in an immunosuppressed patient - case report

Fernando Martins Cruvinel, Debora Cury Ribeiro, Camila Chulu Lorentz, Sergio Bittencourt, Ivo Teles Melo Andrade, Daniela Guimaraes Garcia Cunha, Juliana Guimarães Garcia Cunha

Otorrinoseoul

**Introduction:** Mucormycosis is characterized by a severe, life-threatening, opportunistic infection caused by fungi of the order Mucorales. It is rare and commonly affects facial sinuses, extending into the brain, and affects patients with deficitory immune response, such as those with diabetes melitus, patients undergoing chemotherapy for hematologic neoplasia, patients under corticosteroid therapy or those who are using immunosuppressive drugs after transplantation of solid organs.

**Objectives:** Our goal is to report a case of mucormycosis, which is a rare and often fatal fungal infection, in renal and cardiac transplanted patient.

**Resumed report:** SCV, 60 years old, female, underwent heart transplantation ten years before and renal transplantation two years before, in use of immunosuppressive drugs, presenting left hemiface edema and acute sinusitis with no resolution after twenty days of antibiotic therapy. Left maxillary antrostomy and ethmoidectomy were performed, showing signs of acute sinusitis, rhinorrhea and limited necrotic areas. Further surgical approaches were proposed due to the suspicion of fungal invasion, which was later observed in culture, confirming the hypothesis of Mucormycosis. Weekly approaches (total of 6 surgeries) were performed, debriding the growing necrotic areas and irrigating the cavity with a solution of amphotericin B.

**Conclusion:** Mucormycosis is rare, rapidly aggressive and often lethal, causing rhinocerebral injury, bone destruction and temporal encephalitis in about 50 days of evolution of the condition. Early diagnosis and correct treatment are important because of the high morbimortality of the disease.

#### 7837. Gradenigo syndrome - a case report

Fernando Martins Cruvinel, Otávio Eugênio Teixeira Trarbach, Ludmila dos Reis Silva, Ulisses Jose Ribeiro, Ivo Teles Melo Andrade, Daniela Guimaraes Garcia Cunha, Juliana Guimarães Garcia Cunha

Otorrinoseoul

**Introduction:** The Gradenigo syndrome is a rare complication of otitis media characterized by the association of suppurative otitis media, paralysis of lateral rectus muscle and ipsilateral orbital pain. In this case report, we present a patient with previous treatment for suppurative otitis media who presented clinical aggravation suggesting the hypothesis of Mastoiditis and Gradenigo Syndrome.

**Objectives:** Our objective is to present and discuss a case of Gradenigo Syndrome, emphasizing the treatment adopted and other possible alternatives.

**Resumed report:** MOF, male, 7 months old, with treatment-refractory acute otitis media. The patient presented worsening of clinical course with inflammatory signs in the mastoid area, associated with convergent strabismus. Computed tomography demonstrated the presence of soft tissue material in the topography of the mastoid cells, signs of bone erosion in the left middle ear and opacification of petrous apex, but without bone erosion. Considered the hypothesis of Gradenigo Syndrome, the patient underwent tympanomastoidectomy and tympanostomy tube insertion.

**Conclusion:** Despite its rare occurrence after the introduction of antibiotics, the Gradenigo Syndrome should always be considered when there is facial pain and sixth nerve palsy in otitis media. The best approach usually consists of aggressive surgical intervention. However, new reports have been describing good results with conservative treatment, considering surgery only as a second option, in cases of inadequate response to antibiotic treatment or in chronic cases, especially when there is cholesteatoma.

#### 7840. Post meningitis hearing loss: audiological performance in patients who underwent cochlear implantation

Ricardo Henrique Bessa, Giovanna Manata Barbosa de Souza  
Hospital Santo Antonio/Obras Sociais Irmã Dulce

Meningitis is the most common etiology of acquired sensorineural hearing loss in adults and infants and it's, usually, deep bilateral and symmetrical. The cognitive impairment caused by major hearing loss results in severe consequences on patient's life.

**Objectives:** Analyze the auditory thresholds and the performance of understanding and speech recognition in cochlear implants users with post meningitis hearing loss.

**Method:** It is a cross-sectional study through the review of medical records in patients who underwent cochlear implantation due to post meningitis hearing loss. The audiological performance was rated by audiometry and speech recognition tests before and after surgery. The hearing performance after surgery was classified as: insufficient users who had completed GASP 1,2 and 3; intermediary achieved GASP 4; sufficient, achieved GASP 5; over sufficient, completed GASP 5 and achieved speech perception tests with Trisyllables, Disyllables and Monosyllables's Lists. The variables used were: sex, age of hearing loss, age of cochlear implantation, sensorial deprivation time, presence of cochlear ossification, total or partial electrodes insertion.

**Results:** 15 patients were classified as over sufficient, 1 patient sufficient, 2 patients intermediary and 6 patients insufficient. In this last group, one patient had cochlear ossification with partial insertion of electrodes, and 4 had hearing loss in childhood.

**Conclusion:** All patients had improvement of hearing quantified by audiometry and the speech recognition's tests. The cochlear implantation associated with an efficient speech therapy is able of produce good outcomes, improving considerable the quality of life in patients with post meningitis hearing loss.

**Key words:** cochlear implantation, meningitis, performance.

#### 7843. The use of sleep endoscopy for etiological diagnosis of obstructive sleep apnea syndrome in children with Down syndrome

Paula Sanches dos Santos Azevedo Genovez, Érica Natalia de Freitas, Jose Eduardo Bagnara Orosz, Lívia Trindade, Beatriz Moraes Vieira da Silva, Silvio Antonio Monteiro Marone, Bruno Bernardo Duarte  
Hospital e Maternidade Celso Pierro

**Introduction:** Obstructive sleep apnea syndrome (OSAS) affects 1 to 4% of children reaching 30 to 80% in Down syndrome patients. This relation is due to anatomical dysfunctions and adenotonsillar hypertrophy, having as gold standard for diagnosis the polysomnography, but it doesn't inform the place of the obstruction. For this purpose, sleep-endoscopy (Drug-induced sleep endoscopy) can be performed.

**Goals:** Report a case of Down Syndrome patient submitted to sleep endoscopy.

**Case report:** Patient with Down Syndrome, male, 8 years old, 32 kg with history of snoring, apnea, daytime drowsiness, irritability, assuming a sitting position, with trunk flexed to sleep. She underwent adenotonsillectomy 6 years ago. Nasopharyngoscopy revealed a posteriorised larynx, asymmetric and shortening of the ariepiglottic fold. We chose to perform sleep endoscopy for diagnostic elucidation.

Sleep endoscopy was performed in a surgical center, with propofol-induced sedation at a dose of 2 mcg/ml to 6 mcg/ml, with minimal O<sub>2</sub> saturation of 85%. Grade I obstruction (50-75%) on the basis of tongue and grade II (> 75% of obstruction) was observed in the epiglottis, in the anteroposterior region, using the VOTE classification system (Velum, oropharynx, tongue base, epiglottis). In view of the results, we opted for clinical treatment with CPAP with significant improvement of the symptoms.

**Conclusion:** Due to the persistence of OSAS after adenotonsillectomy, sleep endoscopy is able to visualize the obstructive site with precision, evaluating the therapy for each case.

#### 7851. Clinical radiologic correlation of 52 patients submitted to facial sinus tomography in a specialized clinic at João Pessoa, PB

Adriano Sergio Freire Meira, Alvaro Vitorino de Pontes Junior, Adilson de Albuquerque Viana Junior, Yuri Ferreira Maia, Poliana Gonçalves Vitorino Monteiro, Kallyne Cavalcante Alves Carvalho, Alexandre Augusto de Brito Pereira Guimarães  
SOS Otorrino

**Introduction:** Acute or chronic rhinosinusitis is one of the most prevalent pathologies in the otorhinolaryngology, and can be diagnosed through clinical or radiological examination.

**Objectives:** to evaluate the clinical and radiological relationship of patients with rhinosinusitis.

**Methods:** Retrospective study, with 52 tomographic reports made in February 2017, and informations was retrieved from patients medical records.

**Results:** From the patients who were evaluated, 61.53% (32) were women. The mean age was 30.63% years. The main symptoms were: headache / facialgia in 34.61% (18), nasal obstruction in 21.15% (11), cough in 9.6% (5) and purulent rhinorrhea in 7.7% (4). According to Brazilian otolaryngology society guidelines for the diagnosis of rhinosinusitis, 34.6% (18) had a clinical diagnosis of rhinosinusitis. Recording tomographic reports, 74.98% (39) had acute or chronic rhinoissinusitis, and from those, 26.92% (14) presented associated septal deviation. Isolated septal deviation was found in 21.15% (11) of the patients and 3.8% (2) of the patients did not present any significant radiological alterations. All patients complaining purulent rhinorrhea had rhinosinusitis in the radiological image.

**Conclusion:** Even with few clinical diagnoses of rhinosinusitis 34.6%, tomography was decisive to diagnosis most of patients, in a percentage of 74.98%. It demonstrates the importance of radiological examination as a part of otorhinolaryngological care, in which there is suspicion of rhinosinusitis or when it is desired to confirm diagnosis in patients with few predictive factors or initial symptoms of this pathology. Without their diagnostic contribution, many symptoms may not have the correct treatment for rhinosinusitis, being treated as common colds.

#### 7854. Chronic rhinosinusitis associated with nasal polyps with presence of cerebrospinal fluid simultaneously

Paula Coli Mendes Lima, Thais Monteiro Silva, Miguel Soares Tepedino  
Serviço de Otorrinolaringologia da Policlínica de Botafogo - Rio de Janeiro

**Introduction:** Chronic rhinosinusitis associated with nasal polyps is a chronic inflammatory disease of the nasosinus mucosa. These patients have signs and symptoms that are directly related to decreased quality of life. The rhinogenic cerebrospinal fluid fistula is defined as the presence of communication between the subarachnoid space and the nasal cavity and paranasal sinuses. It is classified as traumatic and non-traumatic. The non-traumatic is divided into iatrogenic or spontaneous. The maintenance of this communication is related to complications such as meningitis and pneumocephalus.

**Objectives:** Present a case report with diagnosis and surgical approach in a patient with chronic rhinosinusitis associated with nasal polyps with the simultaneous presence of cerebrospinal fluid fistula after long term craniofacial trauma.

**Resumed report:** F.S.R, 39 years, male, craniofacial trauma 16 years ago, presence of recurrent liquid rhinorrhea started five years after the trauma. Patient maintained rhynoliquorrhea associated with chronic nasal obstruction. Nasal endoscopy presented bilateral polyps in the middle meatus. The computed tomography presented evidence of bone defect at the skull base and presence of bilateral chronic rhinosinusitis. Transnasal endoscopic approach was performed with polypectomy, nasalization and opening of all paranasal sinuses, and then closure of the fistula with a nasoseptal flap.

**Conclusion:** Due to the relevant impact on the quality of life of patients with chronic rhinosinusitis and possible potentially serious complications with the presence cerebrospinal fluid. Transnasal endoscopic approach is notoriously beneficial for these patients.

**Key words:** Chronic rhinosinusitis; nasal polyps; cerebrospinal fluid.

#### 7855. Laryngeal Paracoccidioidomycosis with Cerebral

##### Dissemination: Case Report

Tamires Ferreira Siqueira, Gustavo Mercuri, Camila Sá de Melo Campos, Dândara Bernardo Siqueira, Lucas Spina, Carlos Segundo Paiva Soares, Cintia Vanette

Universidade Estadual Paulista Júlio de Mesquita Filho Fmb/UNESP

**Introduction:** Paracoccidioidomycosis is the most frequent systemic mycosis in Latin America, caused by Paracoccidioides brasiliensis. The most frequent lesions of the chronic disseminated form are in the lung and oral mucosa.

**Objectives:** To report a case of laryngeal lesion with differential diagnosis of malignant neoplasia, with final diagnosis of Paracoccidioidomycosis.

**Case report:** V.O, male, 55 years, smoker, complained of chronic cough, hemoptysis and hoarseness for 4 months, excluded pulmonary causes. At otolaryngological examination was observed the presence of leukoplakia in all extension of both vocal folds, a lesion with exophytic aspect in the posterior third of right vocal fold and a nasopharyngeal granulomatous lesion. Nasopharyngeal lesion biopsy was performed and resulted in nonspecific lymphoplasmacytic infiltrate with negative fungal screening and BAAR. Direct laryngoscopy was indicated for diagnostic elucidation. However, the patient presented symptoms of probable central origin (dysarthrophonia, lip rhythm deviation, excessive drowsiness) and was then referred for evaluation of Neurology. It was visualized a cerebral mass in the left pre-central rotation. Results of cerebral biopsy were positive for Paracoccidioidomycosis. As so, it was performed a new nasolaryngoscopy that observed granulomatous lesions on the laryngeal face of epiglottis and on all extension of both vocal folds, biopsy of such lesions also with anatomopathological results of paracoccidioidomycosis.

**Conclusion:** Attention should be paid to the general physical examination of the patient, not only focusing on otorhinolaryngological evaluation, in addition there is a need for multidisciplinary evaluation to perform the definitive diagnosis and treatment.

**Key words:** laryngeal paracoccidioidomycosis; hoarseness; vocal fold leukoplakia.

#### 7857. Chondroradionecrosis of the larynx

Roberta Donato Lopes Moss Rinke, Larissa Souza Barreto, Mariana Baptista Mazzotti, José Antônio Pinto

Núcleo de Otorrinolaringologia de São Paulo (Nosp)

**Introduction:** Radiation has been used in the treatment of laryngeal carcinomas for 60 years (1,2). There are 4 main complications: edema, skin damage, perichondritis and chondronecrosis (3,4,5). Chondroradionecrosis of the larynx(CRN) is a rare and serious complication (6). It should be suspected when there are symptoms such as local cutaneous hyperemia, hoarseness, dysphagia, local pain, dyspnea and weight loss in patients undergoing radiation therapy at doses of 70 Gy Or more (7). Oxygen therapy in the hyperbaric chamber

has a repairing effect on the vascular beds of the irradiated tissue, increasing neovascularization and wound healing (3).

**Objectives:** To describe the case of laryngeal radionecrosis in which total laryngectomy was necessary.

**Case report:** Male, 72 years old, submitted to endoscopic type III cordectomy for low differentiated carcinoma (T3N0M0) without surgical margins. Performed 70Gy dose radiotherapy and Cisplatin chemotherapy. After 10 months, he presented dyspnea, cough with fetid expectoration and loss of 22 kg. Laryngoscopy showed laryngeal edema, chondritis and necrosis. RNM showed a deformed mass in the larynx. A total laryngectomy was performed visualizing an extensive necrotic area. Pathologic anatomy (Figure 4) showed free margins of neoplasia, cartilaginous necrosis and laryngeal mucosa with grade II squamous intraepithelial neoplasia. Hyperbaric oxygen therapy and postoperative antibiotic therapy were effective. He is currently asymptomatic and has an esophageal voice after speech therapy.

**Conclusion:** Laryngeal chondroradionecrosis is a serious complication of radiotherapy for the treatment of laryngeal carcinoma. When conservative measures fail laryngectomy becomes mandatory.

#### 7858. Necrotizing Fasciitis of the posterior cervical region:

##### Case report

Tamires Ferreira Siqueira, José Vicente Tagliarini, Gustavo Mercuri, Lucas Spina, Dândara Bernardo Siqueira, Cintia Vanette, Carlos Segundo Paiva Soares

Universidade Estadual Paulista Júlio de Mesquita Filho Fmb/UNESP

**Introduction:** Necrotizing fasciitis is a destructive and rapidly progressive bacterial infection of subcutaneous tissue and superficial fascia with high rates of morbi-mortality. The most frequent agents are Streptococcus pyogenes and Staphylococcus aureus. In most cases cervical involvement is secondary to odontogenic infection.

**Objective:** To report a case of cervical necrotizing fasciitis of non-odontogenic origin in a patient whose only immunosuppressive factor was undiagnosed diabetes mellitus.

**Case report:** J.M.G., 53 years, male, unknown diabetes mellitus, refers to haircut history with electric machine 20 days before entering service. He reports that he presented a small cut in the central occipital region that evolved with pain and hyperemia. It evolved with progressive worsening of the condition with skin necrosis for 15 days, exit of purulent retroauricular secretion and reduction of cervical movement. At the entrance examination, the patient presented a bulging and blackened necrotic band in the occipital region 15cm wide x 10cm high, anterior cervical region (bilateral I to V levels) and infraclavicular region. It was performed a total 3 surgical approaches with debridement of the necrotic area, and the use of Clindamycin, Cefepime and Vancomycin. Cultures were positive for Klebsiella pneumoniae, Staphylococcus aureus, Streptococcus agalactiae. Patient remained in Intensive Care Unit for 35 days. After improvement of the wound, he was submitted to reconstruction.

**Conclusion:** Initially, the presentation of the Necrotizing Fasciitis may be a superficial infection, thus a high index of clinical suspicion is necessary for early diagnosis and treatment, reducing morbi-mortality rates.

**Key words:** necrotizing fasciitis; occipital region; cervical infection.

#### 7861. Chronic rhinosinusitis of proliferative / destructive

##### behavior: case report

André dos Santos Brandão, Diego Costa Farias, Regiane Matos Batista, Ana Larisse Gondim Barbosa, Felipe Xavier de Souza, Jocyane de Souza Andrade

Hospital Universitário Bettina Ferro de Souza

**Introduction:** Incidence and diversity of fungal rhinosinusitis have increased over time, due to advances in diagnosis, antibiotic abuse and an increase in the number of immunosuppressed patients. Its chronic invasive form occurs mainly in immunocompromised patients, however, granulomatous form may also affect immunocompetent patients.

**Objectives:** To report a case of fungal rhinosinusitis, in its chronic invasive form, treated at Rhinology Sector of Otorhinolaryngology Division of Hospital Universitario Bettina Ferro de Souza Hospital (HUBFS), Federal University of Pará (UFPA).

**Resumed report:** We describe the case of a 30-year-old immunocompetent patient with complaints of continuous right facial pain, associated with ipsilateral nasal obstruction for two months. After clinical and radiological analysis, the patient underwent right sinusectomy via deGlove, with resection of inflammatory and purulent material and bone fragments. Evolved with worsening facial pain and development of periorbital edema. Despite the inconclusive results of histopathological analyzes, and no isolation of agents in culture, due to clinical suspicion of fungal rhinosinuvitis, antifungal treatment with amphotericin B was initiated, with pain and periorbital edema regression.

**Conclusion:** Invasive fungal rhinosinusitis, exceptionally, may affect immunocompetent patients. The low sensitivity of fungus culture and the absence of lesions and systemic symptoms of this patient led us to persist in antifungal treatment and obtain a positive resolution of the disease.

**Key words:** Sinusitis; Chronic Disease; Invasive Fungal Infections.

#### 7862. Use of laser therapy in patient with multiform erythema associated with the use of anti-gripal

Paula Coli Mendes Lima, Débora Pereira Rodrigues, Thais Monteiro Silva, Shanna Catta Preta  
Serviço de Otorrinolaringologia da Policlínica de Botafogo - Rio de Janeiro

**Introduction:** The multiform erythema is a systemic disease where skin and the mucous membranes have participation in relation to some factors such as bacterial or viral infections and in particular the drugs administration, analgesics and antibiotics in general. It's appearance of ulcerous bullous-vesicular lesions in lips, gums and tongue. Are plates erythematous, blisters, and target lesions. It is an immunological reaction on the skin and mucosa, often mediated by immunocomplexes.

**Objectives:** Correlate the use of oral corticosteroid and laser therapy in the treatment of erythema multiforme

**Resumed report:** JBM, 52 years, male, from Rio de Janeiro, sought the Otorhinolaryngology Service of the Policlínica de Botafogo in April 2017, complaining of "painful sores in the mouth" beginning two weeks after hyaline rhinorrhea associated with dry cough and use of anti-influenza composed of paracetamol, dimethindene maleate, phenylephrine hydrochloride and ascorbic acid. Such wounds progressed with vesiculous bullous lesions on lips, tongue and mucosa intensified after use of amoxicillin associated with clavulanic acid and nimesulide. After the suspension of medications and the beginning of oral corticosteroid therapy associated with laser therapy, the patient presented improvement of the condition, with total resolution of the lesions.

**Conclusion:** Low-level laser therapy has been effective in accelerating the healing of injured tissue, thus inducing cell proliferation and increasing ATP, nucleic acid, and collagen synthesis. The laser therapy for oral and cutaneous lesions prompt analgesic effect in oral lesions and accelerated healing of oral and cutaneous wounds.

**Key words:** Erythema multiforme; laser therapy; oral corticosteroid therapy.

#### 7864. Oral and nasal histoplasmosis in immunosuppressed patient: Case Report

Tamires Ferreira Siqueira, Cintia Vanette, Dândara Bernardo Siqueira, Lucas Spina, Camila Sá de Melo Campos, Bruno Marcos Zeponi Fernandes de Mello, Gustavo Mercuri  
Universidade Estadual Paulista Júlio de Mesquita Filho Fmb/UNESP

**Introduction:** Histoplasmosis is a systemic mycosis caused by a dimorphic fungus, *Histoplasma capsulatum*. With the advent of AIDS, hundreds of cases, mainly in the disseminated form, were

diagnosed in Brazil. The infection spreads mainly to macrophage-rich organ and skin.

**Objective:** To report a case of seropositive patient with oral and nasal lesions, with differential diagnoses of invasive fungal rhinosinusitis, Kaposi's sarcoma, and other fungal infections.

**Case report:** W.S.G, male, 34 years old, a seropositive patient in treatment, presented with significant dysphagia and presence of a single ulcer on the tip of the tongue, as well as a granulomatous lesion, friable on palate interspersed with areas of purulent secretion. At the anterior rhinoscopy observed deep lesion in the nasal septum bilaterally with mucosa necrosis of 0.5cm in diameter, in area I of Cottle , exposure of septal cartilage, absence of perforation. He had bilateral V-shaped lymph node enlargement. Performed fine needle puncture of the lymph nodes and biopsy of the lesion on the palate. Both cytological and anatomopathological results concluded Histoplasmosis (*Histoplasma sp*). Patient was hospitalized for treatment with Amphotericin B intravenously and presented complete resolution of oral lesions. He was discharged from hospital in use of Itraconazole by mouth.

**Conclusion:** Attention should be paid to the strong relationship between the presence of such systemic mycoses in seropositive immunosuppressed patients. There is the obligation to perform the biopsy of the lesions for the correct diagnosis and appropriate treatment.

**Key words:** histoplasmosis; immunosuppression; oral lesions.

#### 7865. Intrathyroid Parathyroid Adenoma: Case Report

Tamires Ferreira Siqueira, Gustavo Mercuri, José Vicente Tagliarini, Camila Sá de Melo Campos, Dândara Bernardo Siqueira, Cintia Vanette, Carlos Segundo Paiva Soares  
Universidade Estadual Paulista Júlio de Mesquita Filho Fmb/UNESP

**Introduction:** Parathyroid adenoma is the cause of primary hyperparathyroidism in about 80% of cases. The most commonly observed lesion is the solitary parathyroid adenoma. In the ultrasound evaluation, the main differential diagnoses are the thyroid nodes and lymph nodes.

**Objective:** To report a case of primary hyperparathyroidism in a patient who presented a thyroid nodule in the right lobe and suspected a parathyroid adenoma, whose pathology showed that the thyroid nodule itself was the parathyroid adenoma.

**Case report:** I.M.N.R., female, 51 years, asymptomatic. Percent presented thyroid nodules in right lobe seen in ultrasonographic study. Patient first hypothesis was primary hyperparathyroidism (parathyroid adenoma) due to osteoporosis, hypercalcemia, PTH elevation and hypercalcemia. She presented a solid-cystic formation, with exuberant Doppler flow, in the lower and posterior third of the right thyroid lobe, in close contact with the parathyroid topography with the possibility of being follicular cells (Bethesda class IV) or parathyroid cells in the puncture. A parathyroid scintigraphy with Sestamibi suggestive of hyperplasia and / or tumoral process in the thyroid right lobe. Partial right thyroidectomy and right and left lower parathyroidectomy were performed. There was a parathyroid adenoma inside the right thyroid lobe and the general structure of the thyroid gland and the parathyroid glands resected were preserved.

**Conclusion:** Imaging exams are essential for the differential diagnosis, but only the anatomopathological result is definitive. In cases of suspected parathyroid adenoma, complete clinical investigation is necessary, as well as considering a surgical indication.

**Key words:** parathyroid adenoma; thyroid nodules; parathyroidectomy.

#### 7872. Acquired laryngeal web: case report

Marina Abreu Faioli, Camilla Ferreira Gonçalves, Tatiana Roriz Lopes, Andrea Goldwasser David, Fabiana Rocha Ferraz  
Hospital Federal do Andaraí

**Introduction:** Laryngeal membranes are unusual abnormalities characterized by membranous tissue in the supraglottic, glottic or subglottic region. depending on extension, may cause dysfunction and obstruction of airways. may be of congenital or

acquired origin, according to benjamin, are classified in types one to four, depending on the degree of obstruction.

**Objective:** Report a rare case of idiopathic acquired laryngeal web.

**Case report:** Woman, 22 years, white, student. Complaint of progressive dysphonia dysfunction three years ago, associated with dyspnea to efforts one year. Negative comorbidities, denies use of alcohol, tobacco, drugs, inhalation of chemicals, trauma, intubation or stress at birth. To fonation, weak and windy voice. Absence of respiratory effort at rest. To videolaringoscopy, thickness laryngeal web, obstructing 75% of glottis. Rheumatological, infectious and granulomatous causes were researched, no etiology was proven. Submitted to laryngeal microcirurgy with section of web with scissors and unilateral electrocauterization of vocal cord, with aim that would scar in different times. In the videolaringoscopy of the 15th post-operative day, a small adhesiveness was observed. Patient evolved in the following months with the same aspect. Referres important improvement of voice and dyspnea resolution. She is in phonoterapeutic treatment.

**Conclusion:** Laryngeous web is an unusual cause of dysphonia and that can course with respiratory effort depending on the degree of obstruction. There are realations of traumatic cases, other congenitals, but in this, after research, no etiology was identified. Obstructions under 50% may have expecting conduct, but greater than, the conduct must be surgical.

#### 7874. Dorsal augmentation in negroid nose: case report

Simone Rennó Rosa, Artur Grinfeld, Washington Luiz Almeida, Livia Modesto Sotero

Hospital Otorrinos Feira de Santana - BA

**Introduction:** A major challenge in rhinoplasty of the negroid nose is the increase of the dorsum, commonly necessary in Afrodescendants. The technique using fascia-encased stinging, called by some of Turkish Delight, has been performed with good results in some cases in the world. This work demonstrates a case of rhinoplasty involving an increase of the nasal dorsum and improvement of facial harmony using the mentioned technique.

**Objectives:** To demonstrate a case of good aesthetic result in patient with low nasal dorsum

**Resumed report:** Female patient, 38 years old, black, with a low nasal dorsum, submitted to primary rhinoplasty with success in its increase in 1 year postoperative follow-up.

**Conclusion:** The use of temporal fascia involving the cartilage cubes in the composition of the back graft has allowed to reach the success in the aesthetic result of patients, from cases done since the beginning of its use, which was basically in the last decade. In this way, this technique shows itself as a good alternative in the search for the aesthetic improvement of negroid noses.

#### 7875. Fronotoethmoidal sinus mucocele with ophthalmic

**symptoms: A case report**

Matheus Alves Farah, Bertha Catharine Corrêa Pereira Silva, Natália Barros de Melo, Rebeca Alevato Donadon, André Luiz Lopes Sampaio, Gustavo Subtil Magalhães Freire, Nathalia Parrode Machado Barbosa

Hospital Universitário de Brasília - HUB/UNB

**Introduction:** Mucoceles are benign, expansive masses of the paranasal sinuses. These structures may erode into intraorbital or intracranial spaces. It occurs mostly in the frontal and frontoethmoidal regions. Their formation begins with the obstruction of normal sinus drainage. The causes are trauma, previous surgery and chronic rhinosinusitis. The mainly symptoms are headache, maxillofacial pressure, congestion and increased drainage. Proptosis is the most common ophthalmic symptom, and others included orbital pain, decreased acuity, and diplopia. The treatment is by endoscopic, open access or combined.

**Objectives:** Describe a case of frontoethmoidal mucocele presenting eye deviation and ophthalmic symptoms due to mass effect, and surgery excellent results.

**Resumed report:** A 21 years old woman came to Otorhinolaryngology Unit of Hospital Universitário de Brasília with history of left nasal obstruction, proptosis, diplopia, visual turbidity and facial deformity with ocular deviation for 1 year. 3 months ago presented worsening, and externally drained infectious process. Computed tomography revealed extensive left frontoethmoidal mucocele, diverting orbital contents. Nasal videoendoscopy showed bulging of the middle meatus. Endonasal endoscopic surgery was performed, with marsupialization of lesion and drainage of secretion. The patient presented immediate improvement of external appearance of lesion, and has been presenting a correction of facial deformity, without relapses.

**Conclusion:** Sinus mucocele is a condition that can presents a lot of symptoms, including non nasal complaints. It can causes facial deformities, like this case. The endonasal surgery is option to resolve these cases without external scars.

**Key words:** mucocele - frontoethmoidal - sinus - ophthalmic symptoms - endoscopic surgery.

#### 7881. Endoscopic transcanal resection of an intralabyrinthine schwannoma with simultaneous cochlear implantation

Gustavo Pegas Rodrigues Coy, Marcos Nobuo Tan Miyamura, José Eduardo Faria Martins, João Paulo Peral Valente, Silvio Antonio Monteiro Marone

Pontifícia Universidade Católica de Campinas

**Introduction:** Intralabyrinthine schwannomas are rare tumors that account for 10% of all vestibulocochlear schwannomas. Symptoms commonly include hearing loss (sometimes fluctuating), dizziness and tinnitus, frequently mimicking other neurological conditions. Therapy usually consists of a wait-and-see approach. To date, there are few reports of auditory rehabilitation via simultaneous cochlear implantation.

**Objectives:** To describe a successful case of an endoscopic transcanal resection of an intralabyrinthine Schwannoma with simultaneous cochlear implantation.

**Resumed report:** A 41-year-old female was seen in consultation with sudden right hearing loss associated with tinnitus and vertigo. Audiometry evidenced right profound hearing loss. The patient was initially medicated with oral corticosteroids and antivertigo drugs and evolved with improvement of vertigo, but maintaining profound hearing loss and tinnitus with severe discomfort. Magnetic resonance imaging with gadolinium was obtained and T1 post-contrast images evidenced an enhancing intralabyrinthic lesion on the right side compatible with an intravestibular Schwannoma. Resection of the Schwannoma via endoscopic transcanal transpromontorial approach with simultaneous cochlear implantation was performed. Post-operatively the patient evolved without dizziness and tinnitus and with improvement of hearing loss.

**Conclusion:** Our case report shows that cochlear implantation after resection of intralabyrinthine schwannomas is a feasible option for auditory rehabilitation.

#### 7886. Case report: invasive fungal rhinosinusitis in patient with acute leukemia

Dândara Bernardo Siqueira, Renata Mizusaki Iyomasa, José Vicente Tagliarini, Tamires Ferreira Siqueira, Cintia Vanette, Camila Sá de Melo Campos, Lucas Spina

Faculdade de Medicina de Botucatu - UNESP

**Introduction:** Invasive fungal rhinosinusitis is an often fatal infection (mortality between 20-80%) and affects almost exclusively immunocompromised patients. It can be caused by different species of fungi, among them Zygomycetes and Aspergillus. Signs and symptoms include: nasal obstruction, rhinorrhea, pain and facial edema, headache, ophthalmological symptoms, crusting and granulation of the nasal mucosa, as well as necrotic tissue.

**Objective:** to report case of invasive fungal rhinosinusitis in a patient with acute leukemia.

**Case report:** T.J.A.S, female, 20 years, puerperal, in acute leukemia investigation. Complaint of self-limited epistaxis by left nasal fossa. At initial physical examination, fibrotic aspect mass, hardened, infiltrated in the floor and lower turbinate on the left. She presented lower eyelid edema and erythema on the left hemi face. Tomography revealed no specific features of fungal rhinosinusitis; there was obstruction of the left meatal ostium complex by the mass of the ipsilateral nasal fossa. Opted for FESS, to release the meatal ostium complex and to proceed with inferior cornet biopsy. Anatomic pathological results revealed infiltration by acute leukemia, suggestive of neoplasia of dendritic cells blastosplasmocitoides. Positive culture for Fusarium spp and Cunninghamella bertholletiae. Patient was treated with Amphotericin B and maintained chemotherapy, with satisfactory evolution of the clinical picture (regression of clinical symptoms).

**Conclusion:** Invasive fungal rhinosinusitis must be diagnosed early for a favorable outcome. Despite the progress of treatment methods, mortality is still high, requiring multidisciplinary collaboration for early intervention in immunocompromised patients with suspected disease.

**Key words:** invasive fungal rhinosinusitis; acute leukemia; nasal mass.

#### 7887. Fisher's story: orbital floor fracture - case report

Dândara Bernardo Siqueira, Lucas Spina, Camila Sá de Melo Campos, Cintia Vanette, Tamires Ferreira Siqueira, Silke Anna Theresa Weber, Gustavo Mercuri

Faculdade de Medicina de Botucatu - Unesp

**Introduction:** face trauma affects mostly male young adults and nasal fracture is the most common (35%). Among the fractures, the orbital one can have important consequences regarding the functional and aesthetic aspects of the damaged structures. The main signs and symptoms of this type of fracture are: enophthalmos, diplopia, visual loss and ophthalmoplegia.

**Objective:** to report an unusual case of fracture of the orbital floor with functional repercussions to the patient.

**Case report:** R. B., male, 45 years, was fishing when a fish, after jumping in the boat, crashed into his right eye. After minutes, the right periorbital region became swollen, worsening after blowing nose. At physical examination, limitation of ocular opening, in addition to palpebral ptosis and periorbital subcutaneous emphysema; preserved extrinsic ocular mobility, with no apparent periorbital bone crevice or gaping, nor reported diplopia. At tomography, right orbital floor fracture. Patient was submitted to surgery to correct the defect: titanium plate allocation in the right orbital floor, with subciliary access. Postoperative evolution without intercurrences, maintaining functions and aesthetics of the orbit preserved.

**Conclusion:** there are innumerable mechanisms of face trauma and, among their aesthetic-functional repercussions, orbital trauma can evolve irreversible complications. When it comes to orbital fracture, ophthalmologic assessment and, if necessary, early surgical intervention to assure the integrity of orbital structures, restoring the shape and function of the orbit, are essential.

**Key words:** orbital floor fracture; face trauma; surgical treatment.

#### 7891. Epithelioid neurofibroma in vocal string. Case report

Erica Cristina Campos e Santos, Isabele Araújo Tavares, Luciana Brito Corrêa, Rodrigo Betelli Alves, Washington Luiz Almeida, Paulo Sergio Lins Perazzo, Natália Maria Couto Bem Mendonça  
Hospital Otorrinos

Neurofibromas are benign tumors formed by neural components such as Schwann cells and perineurial cells. Its etiology is still unknown. Laryngeal involvement is extremely rare, with a prevalence of 0.1 to 1.5% of all benign tumors in the region. Most of these lesions have been reported in the pediatric population and clinically affect more women.

**Objective:** To report a case of vocal fold epithelioid neurofibroma in a adult male patients. Resume report: 59 year old

patient with initial complaint of persistent, progressive dysphonia, with 1 year of evolution. He underwent videolaryngoscopy where a hemorrhagic cystic lesion was evident in the left vocal fold. He underwent laryngeal microsurgery with detachment and excision of the lesion; The histopathological evaluation of the material from the surgical procedure resulted in epithelioid neurofibroma.

**Conclusion:** Despite the rarity of the neurofibroma located in the larynx, we should keep it in mind as part of the differential diagnosis of tumors of the larynx. Removal by laryngeal microsurgery is a suitable procedure for the treatment of this type of lesion.

#### 7893. Laryngeal histoplasmosis with interaritenoid synechia: case report

Dândara Bernardo Siqueira, Cintia Vanette, Tamires Ferreira Siqueira, Lucas Spina, Camila Sá de Melo Campos, Gustavo Mercuri, José Vicente Tagliarini

Faculdade de Medicina de Botucatu - Unesp

**Introduction:** Laryngeal histoplasmosis is a rare disease that may mimic tuberculosis or laryngeal cancer and should be considered in the differential diagnosis of a patient with hoarseness.

**Objective:** To report a case of a patient with multiple fungal infections and laryngeal synechia evolving with respiratory discomfort.

**Case report:** A.V.S., female, 83 years, patient reported feeling of foreign body in the throat 8 months ago, associated with dysphagia and dyspnea on exercises. As personal history she was ex-smoker; vaginal cryptococcosis; vaginal, laryngeal and cutaneous histoplasmosis; and vaginal Mycobacterium avium. She was under no treatment for this fungal infections about 1 year and a half. On the otorhinolaryngological exam she had an exophytic lesion on the tonsillar pillar and posterior wall of the oropharynx on the right; middle turbinate, inferior turbinate and septum synechia on the right. It was performed biopsy of the lesion in oropharynx and nasolaryngoscopy showing vegetative lesions on the laryngeal face of the epiglottis, right arytenoid, interarytenoid synechia with glottic light reduction in 80%. Result of biopsy of oral cavity and larynx showed histoplasmosis. It was indicated tracheostomy due to reduction of glottic light. It was performed surgical procedure and started treatment with amphotericin B.

**Conclusion:** Fungal infections, such as histoplasmosis, should be considered as differential diagnosis in patients with dysphonia and dysphagia, considering possible respiratory complications that could be threatening to life such as in this case.

**Key words:** histoplasmosis; larynx; respiratory discomfort; interarytenoid synechia.

#### 7896. Spontaneous orbital hematoma: a case report

Sophia Cerqueira Pinto Coelho, Marcell de Melo Naves, Carolina Gambetta Paim, Carolina de Castro Santos Rodrigues, Thomás Luiz Santos, Maria Isabela Alves Ramos, Ana Cecília Alves Carvalho  
Hospital das Clínicas da Universidade Federal de Uberlândia

**Introduction:** Orbital hemorrhage may occur as consequence of trauma, ocular injection, in association with orbital vascular malformations or systemic predisposing factors. The most common presentation is sudden painful proptosis, associated with lid edema. Diplopia and reduced visual acuity are also related. Conservative treatment is effective in most patients, surgical intervention should be reserved for those with optic nerve compromise or persistence of the lesion.

**Objectives:** To describe a case of orbital hematoma in a patient with no identified predisposing factor.

**Resumed report:** A forty-nine-year-old female presented with complaints of retro-orbital pain, decreased visual acuity and proptosis of the left eye for three months. She denied a history of trauma or any previous disease. The MRI found a left retrobulbar lesion leading to optic nerve displacement. The resection of the mass was performed through external access via Lynch incision combined to endoscopic left maxillary antrostomy and anterior ethmoidectomy with aperture of the lamina papyracea. The biopsy was compatible with hematoma in organization stage. The patient did well in the postoperative period with improvement in visual acuity but developed double vision looking to the left.

**Conclusion:** In this case, excisional biopsy was performed due to the compression of optic nerve found in the MRI and the atypical presentation of the lesion, with subacute symptoms and no suggestive past medical history. Although the onset of orbital hematoma in the absence of any predisposing factor is rare, it has to be considered as differential diagnosis of intraorbital masses.

**Key words:** orbital hematoma, surgical decompression.

#### 7897. Facial trauma by firearm: case story

Marina Abreu Faioli, Tatiana Roriz Lopes, Camilla Ferreira Gonçalves, Fabiana Rocha Ferraz, Andrea Goldwasser David  
Hospital Federal do Andaraí

**Introduction:** The facial trauma hits the male population in most cases and the nasal fracture is the most common. The biggest cause is automobile accident, being by a firearm projectile causes more rare. On evaluation and initial management, the most important is the maintenance of the airway. The treatment of fractures of the face should only be held after stabilization of the patient. The fracture of the bones of the nose is the most common, and despite your high incidence, not usually diagnosed and treated, and may cause nasal deformities and obstruction. In etmoido-naso-orbital fracture the association with liquorica fistula is common.

**Objectives:** Present a case of a patient victim of facial trauma by firearm projectile.

**Resumed report:** RMR, male, 75 years old, was the victim of facial trauma by firearm, with the projectile having entered the right temporal region and lodged in the nasal septum. The face scan there were nasal bones fracture, papiracea, ethmoid blade comminuted fracture of the right orbit, cheekbone (malar), wall of the maxillary sinus and anterior ethmoid sinus law right. He was admitted in the hospital with moderate epistaxis and diplopia on the right eye. Evolved amaurosis and severe rhinorrhea. Was submitted to joint teams of surgery Otolaringology and maxillofacial for bullet removal, progressing well after surgery.

**Conclusion:** In the initial assessment of the patient with facial trauma, you should ensure the airway, and after stabilization of patient, you have to establish the best treatment for each case, being conservative or surgical.

#### 7906. Aglossia and maxillomandibular synechiae in a one-year-old child - A case report

Cintia Vanette, Regina Helena Garcia Martins, Silke Anna Theresa Weber, Gustavo Mercuri, Camila Sá de Melo Campos, Dândara Bernardo Siqueira, Tamires Ferreira Siqueira  
Faculdade de Medicina de Botucatu - UNESP

**Introduction:** The tongue is anatomically an organ belonging to the stomatognathic system with important participation in many functions, such as taste, sucking, swallow, chewing, speech and articulation. Most cases of aglossia are associated with other manifestations, like Pierre Robin sequence (a set of craniofacial malformations, probably triggered by a mandibular hypoplasia) and Moebius syndrome (a congenital condition, which etiology is not totally understood).

**Objectives:** To report a case of a child presenting aglossia and maxillomandibular synechiae.

**Resumed report:** T.G.L., one-year-old, male, needed to be tracheostomized immediately after birth because of respiratory distress. He has several abnormalities: micrognathia, microstomia, bilateral facial nerve paralysis, defects of the limbs, aglossia and attachment between palate and floor of the mouth. Nasolaryngoscopy revealed nasal cavity, rhinopharynx, oropharynx and larynx without malformations. Maxillomandibular synechiae was lysed using a Kelly clamp and after it was possible to look into the oral cavity, observing absence of tongue and cleft palate was not seen. After the surgery, the oral opening increased from none to 1,3cm.

**Conclusion:** This case represents a rare condition and Pierre Robin sequence and Moebius syndrome must be considered as diagnostic hypothesis. Otorhinolaryngologists and plastic surgeons are working together to reduce this patient's limitations.

**Key words:** Aglossia, maxillomandibular synechiae, Pierre Robin, Moebius.

#### 7908. Laryngeal Amyloidosis: a case report - Hospital Otorrinos Feira de Santana - BA

Patricia Goes Prado, Natália Maria Couto Bem Mendonça , Washington Luiz Almeida , Paulo Sergio Lins Perazzo, Anderson da Silva Abreu, Rodrigo Betelli Alves, Erica Cristina Campos e Santos Hospital Otorrinos

**Introduction:** Amyloidosis is a disease defined by extracellular deposits of a proteinaceous nature substance in one or more sites of the organism, and its etiology is unknown. The amyloids can affect any part of the body, but rarely appears in the upper aerodigestive tract, the larynx being its main site, representing approximately 1% of the benign tumors. The laryngeal amyloidosis predominates in males, in the fifth decade of life. Dysphonia is the main symptom and histopathological diagnosis is the gold standard. Located disease has a benign behavior, but systemic cases may have poor prognosis.

**Objectives:** describe a case of laryngeal amyloidosis and discuss approach and treatment, compared to the literature data.

**Resumed report:** Seventy-four years old patient, smoker, female, followed at Hospital Otorrinos - Feira de Santana, Bahia from September/2013 to May/2017, in use of tracheostomy due to dyspnea and laryngeal stridor. Videolaryngoscopy showed a circumferential lesion in glottis and supraglottis with reduced glottis light, and paresis of vocal folds. A biopsy of the lesion was performed and, after etiologic diagnosis, larynx microsurgery was identified, which identified laryngeal fixation. Patient was submitted to laryngeal microsurgery for partial removal of airway obstruction.

**Conclusion:** The case aims to demonstrate the clinical diversity of the disease, as well as a warning for the differential diagnosis and follow-up. It emphasizes the need for a high degree of clinical suspicion by the otolaryngologist because the disease has a slow evolution and good prognosis in most cases.

**Key words:** Laryngeal amyloidosis; Larynx; Dyspnea; Dysphonia; Videolaryngoscopy.

#### 7910. Epidemiological profile of patients with chronic ear - Hospital Otorrinos Feira de Santana - BA

Patricia Goes Prado, Erica Cristina Campos e Santos, Rodrigo Betelli Alves, Washington Luiz Almeida , Sandro de Menezes Santos Torres, Natália Maria Couto Bem Mendonça , Raissa de Carvalho Borges Hospital Otorrinos

**Introduction:** Chronic otitis media (COM) is a process of inflammatory nature of middle ear and mastoid with or without a tympanic membrane perforation and otorrhea, potentially leading to a conductive or mixed hearing loss. It is estimated that over 20 million people worldwide suffer from COM. COM can be divided into two groups: simple and suppurative. The latter group is subdivided into not cholesteatomatosus (COMNC) and Cholesteatomatosus (CCOM). The radical mastoidectomy surgery is indicated for these cases, and constitutes in cleaning and clearing of the mastoid and posterior and superior bony wall of the external auditory canal (EAC).

**Method:** Study was conducted prospectively with patients with COMNC and CCOM. They underwent surgery in a medical residency in otolaryngology in Feira de Santana - BA during the period between 2008 to 2016. We monitored during postoperative for 8 months.

**Results:** We performed 369 surgeries in the period, 19% of the surgeries were radical mastoidectomy (MR), 36% tympanomastoidectomy (TM) and 45% tympanoplasties (TP). There was a predominance of females in all types of surgeries, with assessment of hearing subjectively postoperative and important improvement percentage. Discussion: The data obtained in this study confirms the benefit of surgery in the treatment of chronic otitis media.

**Conclusion:** Other studies correlating both subjective and objective improvement of hearing in the evaluation of patients with chronic otitis media undergoing surgery are needed.

**Key words:** Mastoidectomy radical; Chronic otitis media; tympanomastoidectomy; tympanoplasty.

### **7911. Epidemiologic profile of the ambulatory of tinnitus of the Hospital Otorrinos Feira de Santana, Bahia.**

Lorena Mascarenhas Veneza, Natália Maria Couto Bem Mendonça, Sandro de Menezes Santos Torres, Washington Luiz Almeida, Rodrigo Betelli Alves, Luciana Brito Corrêa, Erica Cristina Campos e Santos  
Hospital Otorrinos

**Introduction:** Tinnitus is a very common symptom at the ENT clinic. By definition is a sound not being generated in the environment at that time. It affects about 17% of the population in some countries. In Brazil, the data are not yet well defined, but it is possible that some 28 million Brazilians have already had some form of tinnitus.

**Objective:** Evaluate the epidemiological profile of patients bearers of tinnitus the ambulatory of tinnitus the Hospital otorrinos in the period 2013-2016. Material and

**Methods:** In a total of 202 patients with tinnitus complaint was instituted a questionnaire about the characteristics of tinnitus. A profile of these patients was mounted with subjective responses.

**Results:** Most of our patients are females (82%) and show high discomfort level (64%). The cause is most frequently idiopathic (63%) and patients showed good acceptance and adaptation to AASI (56%).

**Conclusion:** The most tinnitus is idiopathic and improves with time. Adaptation using AASI is evident.

**Key words:** buzz, sound amplification device, generator suppression of tinnitus.

### **7913. Profile of patients submitted to tympanoplasty surgery in a medical residency program in otorhinolaryngology**

Isabele Araújo Tavares, Natália Maria Couto Bem Mendonça, Washington Luiz Almeida, Sandro de Menezes Santos Torres, Anderson da Silva Abreu, Erica Cristina Campos e Santos, Rodrigo Betelli Alves  
Hospital Otorrinos

**Introduction:** Tympanoplasty is a surgical procedure for chronic perforation closure of the tympanic membrane or ossicular chain reconstruction. The size and location of the drilling depend on the infectious agent, the severity of the infection and its chronicity.

**Objectives:** This study aims to evaluate the postoperative results and complications in patients undergoing tympanoplasty in a medical service of otorhinolaryngology residency.

**Methods:** A study was conducted prospectively with patients submitted to tympanoplasty in Otorrinos Hospital in Feira de Santana, Bahia, during the period from 2010 to 2016. The study included patients with chronic otitis media and tympanic membrane perforation, indicating for surgical correction. Patients were followed postoperatively for eight months. Those who did not attend the return visits were excluded.

**Results:** We analyzed 207 patients, aged between 10-75 years. Of these, 119 (57%) were female and seventeen (8.2%) had wound infection. Regarding the integrity of the tympanic membrane, 59 (28.5%) had residual perforation and 31 (14.9%) reported worsening of hearing at the end of follow-up.

**Conclusion:** chronic otitis media is associated with significant reduction in quality of life in patients with perforation in the tympanic membrane by intermittent frames of otorrhea, however, tympanoplasty surgery is still associated with high complication rate. This depends on the surgeon's skill and use of appropriate techniques, and good follow-up postoperatively.

**Key words:** complications; otorrhea; tympanoplasty.

### **7914. Acute invasive fungal rhinosinusitis in a patient with acute lymphoblastic leukemia - a case report**

Cintia Vanette, Dândara Bernardo Siqueira, Lucas Spina, Tamires Ferreira Siqueira, Renata Mizusaki Iyomasa, José Vicente Tagliarini, Gustavo Mercuri  
Faculdade de Medicina de Botucatu - Unesp

**Introduction:** Acute invasive fungal rhinosinusitis is seen particularly in immunocompromised patients and is a source of significant morbidity and mortality. Common causes of

immunosuppression include hematologic malignancies, solid organ transplants, chemotherapy-induced neutropenia. Therefore, it is important to be aware of this condition in this kind of patients.

**Objectives:** To report a case of acute invasive fungal rhinosinusitis in a patient with the diagnosis of acute lymphoblastic leukemia.

**Resumed report:** B.F.C., twenty-year-old, female, diagnosed with acute lymphoblastic leukemia at the age of fifteen, presented bilateral epistaxis, right jaw pain and fever for two days. Nasal endoscopy was inconclusive. CT scan revealed just an opacification in ethmoid sinus. Amphotericin B was prescribed and the patient underwent functional endoscopic sinus surgery (FESS). There was turbinate necrosis; uncinateectomy, bullotomy and turbinectomy were performed. Fungal culture resulted in Aspergillus spp. A second FESS was necessary, since the patient presented necrosis progression into nasal cavity and to nasal wing skin. Despite the treatment, the patient died seventeen days after the first surgery.

**Conclusion:** This case shows the aggressiveness of acute invasive fungal rhinosinusitis. So patients must be examined carefully, to make possible early diagnosis and adequate treatment.

### **7915. Relato de caso : rinoplastia em box tip**

Simone Rennó Rosa, Artur Grinfeld, Washington Luiz Almeida, Lívia Modesto Sotero  
Hospital Otorrinos Feira de Santana - BA

**Introduction:** The nasal box tip is a common complaint in consultations. This defect results from the prominence of the lower lateral cartilages and the weak junction between domus

**Objectives:** To demonstrate a case with good aesthetic result in a patient with a bifid tip undergoing rhinoplasty through access delivery

**Resumed report:** ASA patient, female gender, 29 years old, with broad and square nasal tip complaint. It was submitted to rhinoseptoplasty through delivery approach, involving domus approximation through sutures, placement of strut graft, removal cephalic portion of the inferior lateral cartilages, removal osseous hump, and lateral and paramedian osteotomies

**Conclusion:** Nasal tip surgery is one of the most complex and difficult tasks of modern rhinoplasty. In the case reported, the patient improved facial harmony although correction of the box tip.

### **7916. Neuroendocrine carcinoma of small cells: case report - Hospital Otorrinos Feira de Santana - BA**

Pedro Augusto Pessoa de Abreu, Rodrigo Betelli Alves, Erica Cristina Campos e Santos, Washington Luiz Almeida, Paulo Sergio Lins Perazzo, Natália Maria Couto Bem Mendonça, Raissa de Carvalho Borges  
Hospital Otorrinos Feira de Santana - BA

**Introduction:** Neuroendocrine carcinoma of the larynx is a rare neoplasm that corresponds to less than 1% of all primary laryngeal neoplasms. Nevertheless, it is the second most common group of neoplasias at this location, after squamous cell carcinomas. They may be derived from neural or epithelial cells. Neuroendocrine tumors derived from epithelium can be classified into four well-defined pathological groups: carcinoid tumor, atypical carcinoid tumor, small cell neuroendocrine carcinoma and large cell neuroendocrine carcinoma. Each one with a spectrum of clinical evolution, depending on the histological subtype, made this classification essential for therapeutic planning.

**Objective:** To describe a case of neuroendocrine carcinoma of small laryngeal cells and to discuss approach and treatment, comparing with literature data.

**Resumed report:** A 63-year-old male patient with nasal obstruction and dysphonia for 3 months, with a finding of expansive vegetative lesion occupying rinofaringe with partial choanal obstruction at Video nasopharyngoscopy and Tomography Computerized Neck. Biopsy and histopathological analysis of the lesion were performed, typing it as small-cell neuroendocrine carcinoma, and the patient was submitted to radiotherapy.

**Conclusion:** The case aims to demonstrate the clinical diversity of the disease, as well as the imperative need for histological typing to define the therapeutic modality. We emphasize the aggressiveness of the neuroendocrine tumor of small laryngeal cells, with frequent metastases and a low survival rate at 5 years.

**Key words:** Laryngeal Neoplasms; Neuroendocrine Carcinoma; Small Cell Type.

#### 7918. Epithelioid neurofibroma in vocal string. Case report

Isabele Araújo Tavares, Paulo Sergio Lins Perazzo, Washington Luiz Almeida, Natália Maria Couto Bem Mendonça, Erica Cristina Campos e Santos, Rodrigo Betelli Alves, Luciana Brito Corrêa Hospital Otorrinos

**Introduction:** Neurofibromas are benign tumors formed by neural components such as Schwann cells and perineural cells. Its etiology is still unknown. Laryngeal involvement is extremely rare, with a prevalence of 0.1 to 1.5% of all benign tumors in the region. Most of these lesions have been reported in the pediatric population and clinically affect more women.

**Objective:** To report a case of vocal fold epithelioid neurofibroma in an adult male patient.

**Resumed report:** 59-year-old patient with initial complaint of persistent, progressive dysphonia, with 1 year of evolution. He underwent videolaryngoscopy where a hemorrhagic cystic lesion was evident in the left vocal fold. He underwent laryngeal microsurgery with detachment and excision of the lesion; The histopathological evaluation of the material from the surgical procedure resulted in epithelioid neurofibroma.

**Conclusion:** Despite the rarity of the neurofibroma located in the larynx, we should keep it in mind as part of the differential diagnosis of tumors of the larynx. Removal by laryngeal microsurgery is a suitable procedure for the treatment of this type of lesion.

**Key words:** Neurofibroma; Epithelioid neurofibroma; Larynx; Schwann; Vocal chords.

#### 7923. Warthin's tumor of the larynx: a rare case report

Hospital Otorrinos Feira de Santana - BA

Lorena Mascarenhas Veneza, Raissa de Carvalho Borges, Rodrigo Betelli Alves, Erica Cristina Campos e Santos, Natália Maria Couto Bem Mendonça, Washington Luiz Almeida, Paulo Sergio Lins Perazzo Hospital Otorrinos

**Introduction:** Warthin's tumor or oncocytic cystadenoma is a benign tumor that affects almost exclusively the parotid gland. Few cases are described with laryngeal involvement. They consist of oncocytic epithelial cells and lymphoid follicles containing lymphoid stroma with reactive germinal centers. The exact diagnosis requires histopathological examination. Excision with margin is essential to minimize the risk of recurrence without compromising airway, voice or swallowing.

**Objective:** To describe a rare case of benign laryngeal tumor and debate its diagnosis and treatment, with the use of the literature data.

**Resumed report:** Patient, sixty-four years old, female smoker admitted to Hospital Otorrinos - Feira de Santana-BA in August / 2016 with complaint of dysphonia three months ago. She denied dysphagia, dyspnea and weight loss. Videolaryngoscopy showed cystic appearance with origin in the middle and anterior thirds of the right ventricular band. The patient was submitted to laryngeal microsurgery to remove the lesion and the material was sent for pathology, confirming the diagnosis of oncocytic cystadenoma. Maintains follow-up in the service, with no evidence of recurrence.

**Conclusion:** The report aims to demonstrate a rare case of benign laryngeal tumor, focusing on its diagnosis and treatment, as well as discussing its differential diagnoses and the importance of clinical follow-up in the postoperative period.

**Key words:** Laryngeal Neoplasms; Warthin's tumor; Oncocytic cystadenoma.

#### 7926. Reduce exposure of wound mucosa does not interfere on post-operative pain in children undergoing tonsillectomy: a phase-II randomized controlled trial

Marco Aurélio Fornazieri, Paulo de Lima Navarro, Edson Satoshi Miyazato, Henrique Massamiti Yamamoto

Pontifícia Universidade Católica do Paraná

**Introduction:** Tonsillectomy is one of the most common surgeries performed by otolaryngologists and the major postoperative complaint is the intense postoperative pain. Tonsil fossa closure is one of the strategies as it reduces the wounded area exposed. However, there is still insufficient data proving its real efficacy.

**Objectives:** Verify reduction of pain after tonsillectomy when the surgeon closes the tonsil fossae.

**Methods:** Randomized double-blind controlled trial of 132 children from 5 to 12 years old submitted to bilateral adenotonsillectomy due to adenotonsillar chronic infection and/or hypertrophy. Only one surgeon performed the procedures and similar post-operative medications were prescribed. Primary outcome was postoperative pain (8 hours after the end of the surgery) and 7 days after surgery. A Likert face scale was used for evaluating pain level.

**Results:** One-hundred and eleven participants were analyzed (bilateral closure n=30, unilateral closure n=45, without closure n=36). There was no difference ( $p = 0.26$ ) between the bilateral closure groups (mean=2.9, SD=1.3), unilateral closure (mean=2.4, SD=1.4) and no closure (mean=2.7, SD=1.4) in the postoperative pain. After seven days of surgery, there was no difference at the pain level as well (means at bilateral closure=0.56, SD=1, unilateral closure=0.5, SD=1.1, without closure=0.4, SD=1;  $p=0.6$ ).

**Conclusion:** Reduce exposure of wound mucosa does not represent an effective postoperative pain relief technique.

**Key words:** pain, tonsillectomy, tonsil, tonsillar fossa, suture.

#### 7928. Giant mucocele with origin in the sphenoid sinus in a 14 year old adolescent.

Pedro Augusto Pessoa de Abreu, Erica Cristina Campos e Santos, Rodrigo Betelli Alves, Luciana Brito Corrêa, Anderson da Silva Abreu, Natália Maria Couto Bem Mendonça, Washington Luiz Almeida Hospital Otorrinos

**Introduction:** Mucocele is a rare disease, especially in the child-juvenile population, it affects the frontal and ethmoidal sinuses more, being unusual origin sphenoidal sinuses.

**Objective:** To report a case of a large mucocele isolated from a sphenoid sinus in a 14 year old adolescent and to compare its main clinical and surgical findings with the medical literature.

**Resumed report:** A 14-year-old male patient with headache refractory to analgesic use 4 months ago, radiating to orbits with bilateral episodes of partial amaurosis and left nasal obstruction. Computed tomography of the skull and nuclear magnetic resonance imaging revealed an expansive mass of the sphenoid sinus, suggestive of mucocele. He underwent endonasal surgery with left posterior septal removal and marsupialization of mucocele isolated from the sphenoid sinus.

**Conclusion:** Despite the rarity of mucocele in the infant and juvenile population and the involvement of the sphenoid sinus, we should keep this in mind for the differential diagnosis of expansive masses in facial sinuses. Nasosinus endoscopic surgery is an effective approach for the treatment of mucoceles.

**Key words:** Mucocele; Presentation; Atypical; Infanto-juvenile; Sphenoidal sinus.

#### 7929. Secondary sinonasal tuberculosis: a case report

Eveline Tasca Rorigues, Júlia Rodrigues Marcondes Dutra, Gustavo Felix, Edna Patricia Charry Ramirez, Larissa Maria Alencar Xerez, Thais Dias da Fonseca  
Universidade Federal Fluminense

**Introduction:** Nasal granulomas are characteristic lesions of several diseases. Despite tuberculosis' incidence has declined, its overall burden remains high. Usually, sinonasal tuberculosis is

secondary and primary cases are rare. It mainly affects septal region and lower shell. The most common symptoms are nasal obstruction, rhinorrhea, epistaxis, and nasal ulcer. Histopathology shows caseous necrosis, Langhans giant cells and lymphocytes. The finding of the bacillus leads to definitive diagnosis. Chest x-ray and adjacent sites evaluation are imperative when diagnosis is made. Its diagnosis and proper management are often delayed due to its rarity and nonspecific clinical presentation. In Brazil, treatment is based on Rifampicin, Isoniazid, Pyrazinamide and Etambutol for 2 months, followed by Isoniazid and Etambutol for 4 months.

**Objectives:** Describe a secondary nasal tuberculosis case.

**Resumed report:** MBO, 50 years old man, with long term bilateral nasal congestion worsening for 5 years, associated epistaxis. Denied improvement with antibiotics and nasal corticosteroids. The mucosa of left anterior septal area was infiltrated. Nasal sinus tomography showed complete left maxillary sinus veiling and concentric thickening of right maxillary sinus. c-ANCA, p-ANCA, anti-HIV and VDRL were negative. Histopathological examination of the septal mucosa revealed granulomatous reaction and positivity to BAAR. Chest tomography was suggestive of tuberculosis. He began the treatment, evolving with improvement in nasal obstruction, septal ulcer and no epistaxis two months after.

**Conclusion:** Although nasal tuberculosis is rare, it should be considered in chronic nasal symptoms and nose granulomatous lesions to plan therapy options.

**Key words:** Tuberculosis; Paranasal Sinus Diseases; Granulomatous Disease, Chronic.

### 7933. Epidemiological profile of patients submitted to laryng microcirurgy due to benign vocal fold lesions at Santo Antônio Hospital - OSID

Natalia Silva Cavalcanti, Davi Sandes Sobral, Geisa Pereira Rufino  
Hospital Santo Antonio - Obras Sociais Irmã Dulce

**Introduction:** Benign lesions of the vocal folds are common in the population, in general, and cause a significant impairment in the patient's quality of life and in public health.

**Objectives:** To evaluate the epidemiological profile of patients submitted to laryngeal microsurgery due to benign vocal fold lesions attended at Hospital Santo Antônio - Obras Sociais Irmã Dulce (OSID).

**Methodology:** Fifty one patients were submitted to laryngeal microsurgery due to benign lesions in the Otorhinolaryngology Sector of the Hospital Santo Antônio - OSID from January 1 to December 31, 2016. A standardized tool was developed and applied during otorhinolaryngological consultation.

**Results:** Among the 51 patients operated due to a benign lesion in the laryngeal region, 17 (33.33%) were male and 34 (66.67%) were female. The age ranged from 12 to 73 years (mean: 45.94 years). Eleven of them had a profession that used the voice abusively. The smokers were 17 (33.33%), and 16 stopped smoking between 3 months and 20 years before surgery. Intraoperative lesions were polyp (14 - 27.45%), cyst (13 - 25.49%), nodule (1 - 1.96%), Reinke's edema (4 - 7.84%), suggestive findings of Laryngeopharyngeal Reflux (5 - 9.80%), gap (5 - 9.80%), papillomatosis (7 - 13.73%), granuloma (1 - 1.96%), vocal fold paralysis (1 - 1.96%), other alterations (9 - 17.65%).

**Conclusion:** The epidemiological profile of the patients submitted to laryngeal microsurgery due to benign lesions does not differ from the literature, and videolaryngoscopy and laryngeal microsurgery have a great purpose in the diagnosis and therapy.

### 7934. Respiratory epithelial adenomatoid hamartoma as a differential diagnosis of nasal tumor

Oscar Loiola de Alencar Neto, Daniel Lorena Dutra, Fernando Kaoru Yonamine, Stênio Marques de Camargo, Ana Cecília Cavalcante de Macedo

Instituto de Assistência Médica ao Servidor Público Estadual de São Paulo

**Introduction:** The hamartomas are defined as benign malformations characterized by a mixture of abnormal tissue. The

respiratory epithelial adenomatoid hamartoma is a recently described condition, and is defined as a tumor which is originated from the proliferation of glandular elements of the epithelial surface.

**Objectives:** To describe the report of a patient with respiratory epithelial adenomatoid hamartoma assisted in the Otorhinolaryngology Service of the Hospital do Servidor Público Estadual de São Paulo.

**Resumed report:** A 42-year-old patient was assisted in the Rhinology ambulatory with a history of nasal obstruction. The nasofibroscopic examination showed an epithelized polypoid lesion in the left nasal cavity, occupying the sphenoethmoidal recess and inserted into the roof of the nose. The pre-operative computed tomography showed an oval image with density of soft parts in the nasal cavity. The patient underwent the septoplasty and removal of the lesion and the material was sent for histopathological analysis, which showed a respiratory epithelial adenomatoid hamartoma. The patient obtained improvement in nasal obstruction complaint after the surgical procedure. Endoscopic and radiologic follow-up showed absence of new tumor growth.

**Conclusion:** The case presented here demonstrates a typical presentation of this rare disease. It is a benign condition, but can be easily mistaken for other nasal tumors. The diagnosis must be set in order to avoid unnecessary surgical treatments.

**Key words:** Respiratory epithelial adenomatoid hamartoma, hamartoma, nasal obstruction.

### 7936. Speech-induced squamous cell carcinoma in a patient with Reinke's edema: case report

Mayra Coelho Bócoli, Aline Silvestre Alves Ferreira, Bruna Coelho Ellery, Mariana Santana Xavier, Caio Melo Metsavaht, Alexandre Ramos Caiado Filho  
FAMERP

**Introduction:** Reinke's edema is a laryngeal lesion characterized by the buildup of viscous fluid in the Reinke space. It is a pathology closely linked to smoking, gastroesophageal reflux and vocal abuse. It occurs predominantly in females, aged 50 years. Reinke's edema is a protective inflammatory response to malignant epithelial tissue.

**Objectives:** To report the coexistence of Reinke's Edema and epidermoid carcinoma in vocal folds, a situation that is uncommon in the medical literature.

**Resumed report:** M.A.B., 57 years old, female, teacher. Referring complaints progressive dysphonia for 10 months. She reported smoking load of 39 packets / year and use of pantoprazole and domperidone. It was evidenced by nasolaryngofibroscopy, Reinke grade III bilateral edema. In outpatient return, it evolved with worsening of the vocal pattern and persistence of smoking, but in a smaller amount. After 10 months of the first consultation, he returned with right vocal fold paralysis and Reinke grade I edema in the left vocal fold. Computed tomography of the neck and chest without laryngeal changes or extrinsic compression. Subjected to vocal fold biopsy on the right, compatible with epidermoid carcinoma. Clinical staging III (T3N0M0).

**Conclusion:** Initial tumors of the larynx, as well as Reinke's edema, may present a same initial symptomatology of progressive character, having as main risk factor smoking for both pathologies. The description of this case aims to demonstrate the unusual coexistence between laryngeal cancer and Reinke's edema, since Reinke's edema is a protective factor for the development of neoplasia.

### 7937. Mucocele on the mastoid: a case report

Mariana Renata Nunes, Ricardo Borges, Murilo Carlos Gimenes, Poliana Camurca da Silva, Alvaro Ferdinando Scrimin, Denis Massatsugu Ueda, Marla Renata Soares Momesso  
Universidade Estadual de Londrina

**Introduction:** Mucocele is an expansive cystic formation, with accumulation of mucus, usually a post-obstructive sequel to an inflammatory lesion. It occurs mainly in the 5th to 7th decades of life, with no predilection for sex. In the mastoid, this accumulation occurs

within an obstructed air cell. Cases of mucocoele on the mastoid are uncommon; may remain asymptomatic for long periods, requiring no intervention; however, it can expand and reach adjacent structures, requiring drainage. Its diagnosis is suspected through imaging exams such as computed tomography and magnetic resonance, making a differential diagnosis with other pathologies, such as cholesteatoma and cholesterol granuloma.

**Objective:** To report a case of mucocoele on the mastoid.

**Resumed report:** A 51-year-old woman, with a 3-year history of tinnitus. Also present a 10-year history of bilateral moderate sensorineural hearing loss, which progressed slowly and progressively.

Requested computed tomography of mastoid, evidencing tumor in right mastoid. Resonance imaging was also requested, and the hypothesis of cholesterol granuloma was suggested.

Made mastoidectomy on the right, completely resecting the tumor, with cystic appearance, and sent for anatomopathological evaluation, whose findings were compatible with mucocoele.

After treatment, the patient remained with tinnitus and hearing loss. Maintains ambulatory follow-up.

**Conclusion:** Mastoid mucocoele is uncommon, but should be remembered as a differential diagnosis of other diseases, for a more accurate approach.

**Key words:** mucocoele, mastoid, differential diagnosis.

#### 7940. Ortner's Syndrome: Case Report

Mayra Coelho Bócoli, Matheus Pires Braga, Mayara Moreira de Deus, Mariana Santana Xavier, Bruna Coelho Ellery, Caio Melo Metsavaht FAMERP

**Introduction:** The vocal cords receive innervation by a vagus nerve branch, the recurrent laryngeal nerve, whose left branch travels inferiorly to the aortic arch, in the aorto-pulmonary window. In 1897, Norbert Ortner described a case of cardiovocal syndrome in which compression of the recurrent laryngeal nerve, caused by dilation of the left atrium and contributing to immobility of the left vocal cord, was observed. The term Ortner's Syndrome has been used to describe any intrathoracic, non-malignant heart condition that results in the involvement of this nerve, causing vocal paralysis.

**Objective:** To discuss the pathogenesis of dysphonia resulting from cardiovascular injury involving the recurrent laryngeal nerve.

**Case report:** Male patient, 74 years old, rural worker, alcoholic and former smoker. He had a complaint of dysphonia six months ago, with sudden onset, associated with upper airway infection. Fibronasolaryngoscopy revealed left vocal cord paralysis and the first hypothesis was laringeal carcinoma. Subsequently, hoarseness and chronic dry cough appeared, and a tomography of the chest and neck was performed, which revealed: focal saccular aneurysm dilatation in the aortic arch with interposition between the aorto-pulmonary window in the projection of the recurrent laryngeal nerve.

**Conclusion:** Although dysphonia is frequent in otorhinolaryngology clinics, its etiology associated with the cardiovascular system is uncommon. Ortner Syndrome is rare and it may be secondary to cardiopulmonary disorders, however, compression of the nerve between the aorta and the pulmonary artery under stress is a constant factor. Therefore, fibronasolaryngoscopy should be performed in cases of heart disease associated with vocal complaints.

#### 7941. Undifferentiated carcinoma of the sinusal type:

##### Functional Endoscopic Sinus Surgery Approach

Camila Freire de Vaconcellos, Ana Clara Miotello Ferrao, Miguel Soares Tepedino  
Policlínica de Botafogo

**Introduction:** Undifferentiated carcinoma is a possible tumor diagnostics in the nasal cavity's upper floor. They consist of unusual tumors, mostly voluminous and aggressive in behavior. Parameters in immunohistochemistry are negative for the S-100 protein and positive for cytokeratins.

**Objective:** Report undifferentiated carcinoma of the sinusal type in a patient with haemorrhagic tumor in the nasal fossa.

**Report:** Woman, 31 years old, arrived in the otorhinolaryngological service of Policlínica de Botafogo with long lasting nasal obstruction and recurrent epistaxis. Patient had a nasal surgery eight years ago removing a fibroelastic undifferentiated injury with the presence of atypical cells and necrosis according to histopathologic exam. Nasal endoscopy presented hemorrhagic mass occupying the middle right meatus. Paranasal sinuses magnetic resonance demonstrated mean signs in T1 and T2, heterogeneous gadolinium enhancement with peripheral preponderance, in the middle and superior right meatus, in contact with the sphenoethmoidal recess. Incisional biopsy revealed undifferentiated neoplasia. Computerized tomography of the paranasal sinuses with neuronavigation parameters and contrast-enhanced computerized tomography of the neck were requested for surgical planning and evaluating lymph node dissemination respectively. The surgery for removal of the injury consisted in drilling the sphenoid bone and skull base preserving the frontal and sphenoidal bones. Immunohistochemistry confirmed diffuse positivity for anti P19 antibody corroborating diagnosis of undifferentiated carcinoma of the sinusal type. Patient had good postoperative recovery and began radiotherapy and chemotherapy.

**Conclusion:** Undifferentiated carcinoma of the sinusal type is a rare destructive neoplasia that usually demands adjuvant therapy.

#### 7944. Cervical lymphadenopathy as the initial manifestation of sarcoidosis

Marina Moraes Loepert, Mariana Meireles Teixeira, Hassana de Almeida Fonseca, Eduarda Costa Alves, Priscila Silva Monteiro, Diogo Lacerda Pereira de Medeiros  
Hospital Federal dos Servidores do Estado

**Introduction:** Sarcoidosis is a systemic inflammatory disease of undefined aetiology, in which non-caseous epithelioid granulomas are found in the affected organs. In Brazil, the incidence was estimated at 10 / 100,000 inhabitants. Sarcoidosis affects young adults, preferably in the 25-40 age group. In general, women are more affected, at the ratio of 1.2 to 1 for each affected man.

**Objectives:** The aim of this study is to report the initial presentation of sarcoidosis through cervical lymph node enlargement.

**Resumed report:** Female patient, 51 years old, presenting bilateral cervical adenomegaly levels I and II and left parotid enlargement of slow and progressive increase 3 years ago. Deny fever or weight loss. Cervical USG presented an increase of parotid lymph nodes in its parenchyma, as well as cervical lymphadenomegaly affecting areas Ib, IIb bilaterally and level IV on the right. He performed serologies without alterations. Performed a fine needle aspiration puncture that proved to be inconclusive. After that, a level IIb cervical lymph node biopsy was performed, which revealed a chronic granulomatous inflammatory process without central necrosis compatible with sarcoidosis.

**Conclusion:** Sarcoidosis is a chronic multisystemic inflammatory disease with a very varied clinical presentation and may be asymptomatic. The most affected sites are the lungs and intrathoracic lymph nodes. The extrathoracic form occurs in 10% of patients and mainly affects the eyes, skin and nasal mucosa.

#### 7950. Case report: third medium suspension with wires

Simone Rennó Rosa, Lívia Modesto Sotero, Washington Luiz Almeida, Artur Grinfeld  
Hospital Otorrinos Feira de Santana - BA

**Introduction:** The suspension wire technique is a treatment option for the face. They are most effective for patients who do not have advanced signs of aging, but are bothered by facial flaccidity

**Objectives:** To report a case of rejuvenation by placing suspension wires on the middle third of the face

**Remaining report:** LSD, 58 years old, female gender, submitted to the placement of suspension wires using two non-absorbent, unidirectional wires in each hemiface and fixation in a plane below the scalp

**Conclusion:** The use of wires is indicated for the correction of mild and moderate sagging, usually after 35 years, when there is not yet a greater need for lifting. In the case reported, there is a significant reduction of age-related expression marks leading to an increase in patient self-esteem.

#### 7962. Antrochoanal polyp ana pregnancy: a case report and literature review

Gilson Espínola Guedes Neto, Larissa Borges Richter Boaventura, Gabriella Macêdo Barros, Gislaine Patricia Coelho, Luiz Eduardo Flório Junior, Vinicius de Faria Gignon, Nathalia Tenorio Fazani  
PUC SP

Nasal obstruction is a common clinical occurrence, that englobes a high serie of pathologies (inflammatory, infections, traumatic, benign tumors, malignant tumors, etc). Antral-Choanal polyps (Killians polyp), must be remembered like differential diagnosis of nasal obstruction, when has a sinus roentgenogram with unilateral maxillary opacification. An Antrochoanal polyp, or Killian's polyp is a benign solitary polypoid lesion that affects mainly children and young adults. Studies demonstrate that Killin's polyp generally represents 4-6% of all nasal polyps. It originates from a hypertrophy of the mucous membrane on the maxillary sinus antrum, and it grows for unknown reasons, through the maxillary sinus ostium towards the nasal cavity and the choana - the posterior portion of the pharynx.

We present a young pregnant patient, 16 years old; with antrochoanal polyp and discuss their clinical history, radiological, nasal/nasopharynx endoscopic evaluation, considerations about the origin and the surgical treatment of choice according to the literature and the relation with pregnancy hormones.

#### 7965. Discrepancy of values invested in cochlear implant surgery in Brazil

Amanda Sampaio Almeida, Marcelo Cassio de Cerqueira Almeida  
Escola Bahiana de Medicina e Saúde Pública

**Introduction:** Cochlear implants have become recognized worldwide. However, in Brazil, only few centers offer this procedure. Obstacles to their use include the average cost, which exceeds R\$40.000 and the unequal distribution of resources among regions.

**Objectives:** To compare the values spent on cochlear implant procedures among Brazilian regions, in public and private administrations, in 2015.

**Methods:** This retrospective and descriptive study considered the total value spent on "cochlear implants" and "unilateral cochlear implant" procedures, in Brazil, in 2015. Data was obtained from the Hospital Information System (SIH-SUS), available from the Department of Information Technology of SUS (DATASUS).

**Results:** In 2015, a total of R\$38.897.783,7 was spent on cochlear implant surgery in Brazil. Of this total, 54% were accounted in public sector, while 28% were in private sector. Southeast concentrated 60% of all this investment. Northeast and South represented, respectively, the second and third region with highest percentages: 23 and 11%. Meanwhile, North and Midwest regions accounted for only 3% each.

**Conclusion:** Investments in cochlear implant are rising in Brazil, but there still is a discrepancy among regions discrepancy among regions. This fact increases the difficulty of access for those who need the device. Consequently, the majority of them remains unassisted, perpetuating the condition of severe to profound hearing loss.

**Key words:** cochlear implant; investment; Brazil; hearing loss.

#### 7972. Nasal reconstruction with mediofrontal flap: two case report

Jacqueline Oliveira de Matos, Lucca Policeno Paulin, Andressa Gervasoni Sagrado, Cristiano Roberto Nakagawa, Afonso Possamai Della Júnior, Natália Collodetto Soares, Mariana Krelling Salgado  
Santa Casa de Misericórdia de Curitiba - PUCPR

**Introduction:** A nasal reconstruction is a challenge for surgeons, who seek to achieve a suitable aesthetic and functional result. The mediofrontal flap, has the first records by Sushuruta Samita, 600

to 700 years BC and has been developed throughout history, being widely used today. Nasal defects are, in most cases, sequelae of surgical excision of nonmelanoma skin tumors, such as basal cell carcinoma and squamous cell carcinoma, which sometimes encompasses large sets and complexity, compromising various structures of the nasal pyramid and requiring elaborate reconstructions. Nasal reconstruction in these cases should aim at functional and aesthetic adequacy and being that medionasal flap guarantees good coverage for major defects.

**Objective:** to analyze the outcome and demonstrate the versatility of the mid-frontal flap in the extensive nasal reconstructions after complex defects caused by non-melanoma skin tumor resection, by reporting 2 cases, performing the Otorhinolaryngology and Facial Cranial Facial Surgery service Santa Casa Hospital of Curitiba, Curitiba, Brazil.

**Conclusion:** the use of medionasal flap presented favorable aesthetic / functional outcomes, with good coverage, texture, staining and healing. Descriptors: nasal reconstruction, midfrontal flap, squamous cell carcinoma, basal cell carcinoma.

#### 7974. The Importance of Early Diagnosis of Oral Cancer: Case Report

Júlia Guimarães Soffientini, Ana Carolina Silveira de Oliveira, Cristian Kaefer, Ana Cristina da Costa Martins, Danielle de Carvalho Dantas  
Universidade Estácio de Sá

Patient R.S.M., a 53-year-old female patient, reported to the Otorhinolaryngology Service of the Santa Casa de Misericórdia in Rio de Janeiro, due to the pain in the topography of the Temporomandibular Joint, with a 6-month evolution. She performed previous dental and neurological research for diagnosis and therapy, but with no report of improvement. She presented Left Peripheral Facial Paralysis Grade II (House-Brackmann Scale). At otorhinolaryngological examination, was observed an asymmetry in the left retromolar trigone region, presence of hardening and pain on palpation with slight irregularity of the mucosa. Image exams were requested, which did not show any alterations. After the biopsy of the oral lesion, the histopathological report revealed Malignant Neoplasm of Basal Cells. The patient was referred to the National Cancer Institute.

Cancer is considered a global public health problem. In Brazil, oral cancer has a high incidence and mortality. The mouth is an anatomical site easily accessible, through self-examination, getting up presents suspicions, especially in the early stages, leading to a previous diagnosis. However, in most cases, the diagnosis is made in advanced stages of the disease, which results in worse prognosis. This fact suggests a lack of knowledge of the pathology, a deficiency in the search for medical care by the individual, or in access to a quality health care. For the early diagnosis, it is necessary, therefore, the recognition of the signs and symptoms suggestive of cancer, the careful examination of the oral cavity and a diagnostic approach in the first medical appointment.

#### 7975. Tumefactive multiple sclerosis: case report

Adriano Sergio Freire Meira, Rebeca Maurera Almeida Cyrillo, Alvaro Vitorino de Pontes Junior, Adilson de Albuquerque Viana Junior, Yuri Ferreira Maia, Poliana Gonçalves Vitorino Monteiro, Kallyne Cavalcante Alves Carvalho  
SOS Otorrino

**Introduction:** The demyelinating tumefactive lesions of the central nervous system are of extremely difficult diagnosis, due to the clinical and radiological similarity with other nosologic entities.

**Objective:** To report a case of tumefactive multiple sclerosis.

**Resumed report:** I.A.P., female, 23 years old patient, presented a medical history of rotatory vertigo, blurred vision and constant nausea. Alterations were not found through Otorhinolaryngology, Otoneurology and audiology. A rhinoscopy identified the presence of a bloody crust in the right nasal fossae's septal area. An impedanciometry identified absent ipsilateral reflexes by the left ear. The following exams were then required: vector electronystagmography and auditory brainstem response test. The patient returned with considerable aggravation of symptoms, showing: alterations in static and dynamic balance tests, cranial pairs

examinations and cerebellar tests. Vector electronystagmography's results presented pathognomonic signs of central alteration. The auditory brainstem response test results showed normal signs for the right ear and eletrophysiologic conduction dysfunction for the left ear, presenting only wave I. A cranocephalic resonance imaging was prescribed, which indicated a profound frontal periventricular lesion with involvement of the corpus callosum and wide mass in the pontine-medulla junction, middle cerebellar peduncle and cerebellar hemisphere to the right. Thus, the patient was referred to neurology, initiating pulse therapy with corticosteroids and liquor puncture. The liquor's results revealed tumefactive multiple sclerosis. Specific treatment was then initiated.

**Conclusion:** Since there is no universal protocol regarding the approach of tumefactive demyelinating lesions, clinical follow up is, therefore, necessary.

**Key words:** Multiple Sclerosis. Neurology. Otolaryngology.

#### 7976. Congenital nasopharyngeal teratoma

Anne Karine Rufino Correia de Oliveira, José Luciano Moreira do Nascimento Filho, Hanna Balbino Gonçalves, Leidianny Firmino Costa, Horrara Diniz Silva, Daniela Isabel Cevallos Zambrano, Priscila Regina Cândido Espinola

*Instituto de Medicina Integral Professor Fernando Figueira - IMIP*

**Introduction:** Teratomas are rare congenital tumors composed of tissues derived from the embryonic germ cell layers. Head and neck teratomas are very rare accounting for <5% of all teratomas, with nasopharyngeal ones being extremely rare.

**Objectives:** To describe a case of congenital teratoma of the nasopharynx, emphasizing the importance of early diagnosis.

**Resumed report:** A routine ultrasound examination at the 29th week of gestation drew attention to the presence of polyhydramnios associated with the cystic image in the anterior region of the fetal neck. Investigation continued with fetal MRI, which showed heterogeneous lesion in the mucosal-pharyngeal space of nose and oropharynx with cysts inside; Due to the evolution of polyhydramnios, the child was born of cesarean delivery, gestational age of 34 weeks and 5 days, and was submitted to orotracheal intubation (EXIT) to guarantee airway. MRI: solid-cystic expansive formation, well delimited, with areas of hypersignal in T1 and hyposignal in T2, located in the retropharyngeal space, without evident enhancement by the contrast, determining a marked reduction of the pharyngeal lumen; Elevated alpha-fetoprotein reinforced the diagnostic hypothesis of teratoma. Surgical approach occurred on the 12th day of life, by endoscopy. The histopathological study confirmed the initial hypothesis. Extubation occurred less than 48 hours after the surgical procedure. She was discharged from hospital on the 8th postoperative day and progressed uneventfully.

**Conclusion:** High-quality prenatal imaging plays a key role in identifying neonatal head and neck teratomas, determining an appropriate airway management strategy, and planning for surgical resection.

#### 7977. Bezold's abscess complicated with anterior mediastinitis: case report

Vanessa Carvalho de Oliveira, Matheus Pires Braga, Aline Silvestre Alves Ferreira, Alexandre Ramos Caiado Filho, Caio Melo Metsavaht, Mayra Coelho Bócoli

*Faculdade de Medicina de São José do Rio Preto (FAMERP)*

**Introduction:** Bezold's abscess is a deep cervical abscess, originating from acute mastoiditis.

**Objective:** This paper aims to report the clinical case of a child with Bezold Abscess complicated with anterior mediastinitis, attended at a school hospital in northwest São Paulo.

**Resumed report:** Female, 11 years old, hospitalized due to cervical bulging, progressive left, fever, left purulent otorrhea and dysphagia. She presented otolaryngological physical examination, besides otorrhea, a bulging in the cervical areas II / III to the left, endured, with restriction of the cervical movement. Normal right otoscopy. Computed tomography of the neck and mastoid

was performed, with signs of otitis media and mastoiditis on the left, with blurring of the fat from the cervical spaces and deep fascias in the left carotid and parapharyngeal spaces, associated with the collection in the pre-vertebral space / Danger and images suggestive of Anterior mediastinal abscess. The patient underwent exploratory cervicotomy on the left and was referred to the intensive care unit. The cultures of the material collected during surgery were negative and the anatomopathological evidence showed atypical lymphoid hyperplasia. She remained hospitalized for 25 days and being discharge from hospital without sequels.

**Conclusion:** Bezold's abscess is an extremely rare complication of otitis media and mastoiditis, and is often diagnosed at a late stage, usually because it is not remembered as a differential diagnosis. Therefore, in the presence or suspected Bezold's abscess, broad-spectrum antibiotic therapy should be initiated and a CT scan of the neck and mastoid should be sought for treatable complications.

#### 7980. Chronic otitis media resulting from nasal synechiae: case report

Adriano Sergio Freire Meira, Rebeca Maurera Almeida Cyrillo, Poliana Gonçalves Vitorino Monteiro, Kallyne Cavalcante Alves Carvalho, Yuri Ferreira Maia, Adilson de Albuquerque Viana Junior, Alvaro Vitorino de Pontes Junior

*SOS Otorrino*

**Introduction:** The chronic otitis media represents a group of middle ear problems of chronic evolution, being possibly caused by dysfunctions between nose and ear. The synechiae consists of an adherence of the nasal septum to the inferior nasal conchae.

**Objective:** To report a case of otitis media resulting from nasal synechiae.

**Resumed report:** P. L. T. D., female, presented a history of chronic otorrhea and plenitude in the left ear. The otoscopy revealed, to the left, apical retraction, and to the right, an apparently integrate tympanic membrane, showing purulent retrotympanic secretion. The rhinoscopy showed, to the right, anterior estenosis, with synechiae, without sighting of meatus or turbinates. To the left, the rhinoscopy revealed meatal stenosis with hyaline secretion. The videolaryngoscopy identified tracheal stenosis. The computerized tomography of the facial sinus revealed left maxillary sinus' hypoplasia, etmoidal sinusopathy, septum deviation to the right and thickening of nasal mucosa. Due to the clinical history and findings in physical and complementary exams, the placement of ventilation tubes in both ears was proposed, as well as: left nasal fossae's anstrotomy, synechiae removal from the right nasal fossae, monitoring of fibrosis dysplasia on the left side and monitoring of laryngeal stenosis. The patient was then submitted to surgical treatment of ears and nasal fossae stenosis, having reacted well after the procedure, with gradual improvements to her clinical status.

**Conclusion:** The synechiae presented in this case occurred idiopathically, with no history of nasal surgical procedures or infections, being characterized as a rare event.

#### 7984. Cystic adoid carcinoma: case report

Adriano Sergio Freire Meira, Alvaro Vitorino de Pontes Junior, Adilson de Albuquerque Viana Junior, Yuri Ferreira Maia, Kallyne Cavalcante Alves Carvalho, Lorena Pinto de Souza Pontes, Poliana Gonçalves Vitorino Monteiro

*SOS Otorrino*

**Introduction:** Cystic adenoid carcinoma (CAC) is a pathology that corresponds to 10% of neoplasms of salivary glands and 1% of neoplasias of head and neck. A slow-growing tumor that is malignant, invasive and infiltrative, has its main risk factors in alcohol and tobacco, with its higher occurrence in females and middle-aged adults.

**Objective:** To report a malignant salivary gland tumor considered rare in head and neck surgery.

**Case report:** A 45-year-old female patient underwent tumor removal surgery (CAC) 12 years ago. Two years later, she had

recurrence and new surgery and radiotherapy were performed. At physical examination, he presented orosinusal surgical fistula in the posterior third of the hard palate. Results of imaging tests revealed recurrence of tumor lesions, afterwards undergoing the craniofacial approach and orbital cavity reconstruction, with periodic follow - up. Its spread after treatment, be it surgical, or therapeutic, is common. Histopathologically, it is classified into three types: cribriform, tubular and solid, the latter having the worst prognosis. The main differential diagnosis is pleomorphic adenoma. Histological and immunohistochemical exams are indispensable.

**Conclusion:** It is concluded that CAC must have an early diagnosis, for the correct treatment, and should be based on clinical, histological and immunohistochemical characteristics. Its report is of priority, because it has great infiltrative potential, besides having asymptomatic evolution and slow growth, soon it becomes necessary its recognition.

**Key words:** cystic adoid carcinoma; neoplasms; salivary glands.

#### 7985. Non invasive treatment of cerebral abscess: a case report

Adriano Sergio Freire Meira, Poliana Gonçalves Vitorino Monteiro, Lorena Pinto de Souza Pontes, Kallyne Cavalcante Alves Carvalho, Yuri Ferreira Maia, Adilson de Albuquerque Viana Junior, Alvaro Vitorino de Pontes Junior  
SOS Otorrino

**Introduction:** Sinusopaties may have a bad evolution when the diagnosis and the treatment is delayed. They may evolve to intracerebral complications, needing to be submitted to surgery.

**Objectives:** Expose a case, reporting a cerebral abscess treated conservatively.

**Case report:** A. S. C., female, 42 years, presenting nasal obstruction and coryza. Evolves with greenish rhinorrhea, headache and right periorbital edema. Initiated oral antibiotic. Two weeks later, complained about worst headache, disorientation, left upper limb hemiparesis, periorbital edema and lip rhyme shift to the right, diarrhea and vomits. Admitted on emergency by a neurologist with right upper eyelid edema. Requested skull tomography which it showed a temporal hipodensity that suggests abscess. A venous vein antibiotic treatment was started for further evaluation of surgical drainage. During hospitalization another tomography was performed and showed lesions of cerebritis and cerebral abscess. Requested otorhinolaryngological evaluation for endoscopic drainage of the abscess. No significant changes were observed after rhinoscopy. Rigid videoendoscopy was performed observing hyaline secretion, degenerated right middle concha, middle meatus and right sphenoethmoidal recess. Computed tomography of the sinuses revealed soft tissue density in the paranasal sinuses with heterogeneous contrast enhancement and with cerebral dissemination in the fronto-temporal lobe on the right. Conservative treatment was maintained because of the patient's good clinical response. A new skull tomography was performed for control, which evidenced the absence of collections.

**Conclusion:** Rhinosinusitis, if treated earlier and with adequate antibiotic therapy can avoid complications.

**Key words:** sinusopathy; cerebral abscess; treatment.

#### 7988. Frequency of epistaxis and conducts performed in a emergency room of otorhinolaryngology at a public hospital

Adriano Sergio Freire Meira, Poliana Gonçalves Vitorino Monteiro, Kallyne Cavalcante Alves Carvalho, Alexandre Augusto de Brito Pereira Guimarães, Alvaro Vitorino de Pontes Junior, Adilson de Albuquerque Viana Junior, Yuri Ferreira Maia  
Sos Otorrino

**Introduction:** A frequent complaint in the emergency services of Otorhinolaryngology is epistaxis. The determination of the clinical profile of the emergency service provides subsidies for the organization and provision of hospital work improvements.

**Objectives:** To analyze the frequency of epistaxis care in an otorhinolaryngology department of a referral hospital in Paraíba, during a period of six months, and to verify the conducts taken.

**Methods:** A retrospective cross-sectional study was carried out, based on the analysis of the records in the emergency service booklet, from June to November 2015. It was determined whether the bleeding was from the anterior or posterior region of the nasal cavities and a survey of the conducts taken has been made.

**Results:** A total of 117 cases of epistaxis were treated in the period, equivalent to 9.96% of all cases seen in the Otorhinolaryngology service. In 96.59% of them, the bleeding originated from the anterior region of the nasal cavities. In 29.05% of the patients, measurements were performed as washes with saline solution, vasoconstrictor compresses or cauterization with trichloroacetic acid. Anterior nasal packing was performed in 18.80% of the patients. Of the total, 3.41% of the patients required anteroposterior nasal packing and only 1.70% underwent an emergency surgical procedure to cauterize the sphenopalatine artery. In the remainder (47.04%), the epistaxis was self-limited.

**Conclusion:** A high rate of bleeding was found in the anterior region of the nasal cavities. Low rates of cauterization of sphenopalatine artery were recorded in this service.

#### 7990. An unusual silent sinus syndrome in a 4 years old boy

Mariane Paiva Rangel, Lívia Cortizo Reis, Larissa Maria Oliveira de Carvalho, Nadejda Maria Ávila da Silva Varginha, Otávio Cabral Coelho, Ana Cecilia Baganha Vaz, Guilherme Henrique Pento dos Santos

*Centro Universitário de Volta Redonda - Unifooa*

**Introduction:** The Silent Sinus Syndrome is a rare clinical condition that usually presents with enophthalmos, hypoglobus and atelectasis of the maxillary sinus. The typical patient is an adult in the third through fifth decades of life.

**Objectives:** To report an unusual case of the syndrome in a child.

**Resumed report:** A 4-year-old boy was taken to a pediatric service by his mother, who reported repeated infections of the upper airway. One month and a half ago, he had a nasopharyngitis and a fever that persisted even with the administration of Amoxicillin-Clavulanate, which was prescribed after the evaluation of the paranasal sinuses radiography. After 6 days without getting better and episodes of headache, photophobia and vomit, a computed tomography of the skull and the paranasal sinuses and lumbar puncture were made. He was admitted with intravenous Ceftriaxone for 14 days, which did not have any effect. Another pediatrician requested a new radiography of the paranasal sinuses and prescribed antibiotics again (Clarithromycin for 10 days, 5 days before the evaluation of the otorhinolaryngologist). At the moment, he was in a good condition, cooperating with the exams and no signs of infection. There were not enlarged lymph nodes nor stiff neck. The otorhinolaryngological examination did not show changes.

**Conclusion:** The patient was diagnosed with Silent Sinus Syndrome due to clinical improvement without radiological change with the correct treatment for sinusitis. The computed tomography showed total veiling and hypoplasia of the right maxillary sinus without hydro level.

**Key words:** Silent Sinus Syndrome, Maxillary Sinus, sinusitis.

#### 7994. Acute Otitis Media with Peripheral Facial Paralysis in a four-month infant

Mariane Paiva Rangel, Lívia Cortizo Reis, Larissa Maria Oliveira de Carvalho, Alessandra Miranda, Guilherme Henrique Pento dos Santos, Ana Cecilia Baganha Vaz, Otávio Cabral Coelho  
*Centro Universitário de Volta Redonda - Unifooa*

**Introduction:** Acute Otitis Media is an inflammatory and/or infectious process of the mucosal lining of the middle ear. It occurs mostly in 3 year-olds; however, it can occur at any age. Acute Mastoiditis and Peripheral Facial Paralysis are two of the most common complications of this disease.

**Objectives:** To report a case of peripheral facial paralysis in a four-month-old nursing infant as a complication of Acute Otitis Media.

**Resumed report:** A 4-month-old boy presented swelling, hyperemia and facial mimic reduction on the left side of his face.

The otoscopy showed purulent secretion in the left ear. One month before, he was at the Emergency Room to treat an infection of the upper airway, which was medicated with Amoxicillin for 10 days and, after that, Amoxicillin-Clavulanate because the baby was not getting better. Four days after the change of antibiotics, he was admitted at the hospital with the signs and symptoms described above. A computed tomography showed signs of acute mastoiditis associated with otitis media; however, there was no clinical mastoiditis. After 14 days of Intravenous Ceftriaxone + Oxacillin and 7 days of Hydrocortisone, the patient got better without any sequel.

**Conclusion:** The patient had a fallopian canal dehiscence that caused the peripheral facial paralysis secondary to acute otitis media. This condition requires surgery in adults, but it is contraindicated for his age. The infection of the mastoid is explained by the proximity with the infection of the middle ear.

**Key words:** Acute Otitis Media, Peripheral Facial Paralysis, Fallopian Canal Dehiscence.

#### 8005. Oral ulcer associated with neurosyphilis: a reinfection case

Beatriz Figueiredo Brandão, Roberto Campos Meirelles, Murillo Mendes Aquino, Nathalia Prudêncio Silvano, Lívia Azevedo Caetano, Fernando Liess Krebs Rodrigues

Hospital Universitário Pedro Ernesto

**Introduction:** Syphilis is a reemerging sexual infection, caused by a spirochete Treponema pallidum. The main epidemiology changes reflect decrease in use of barrier protection, sexual promiscuity and the idea of a curable disease. Syphilis can affect several organs and tissues causing complex clinical manifestations. Oral ulceration is generally the first presentation, but it can occur at any stage. Specially when it is associated with immunodeficiency (i.e HIV) syphilis can mimic a lot of other diseases.

**Objectives:** Report a case of syphilis reinfection resulting in neurosyphilis associated with oral ulcer

**Resumed report:** A 50-year-old male presented to our service with a 3 month history of a oral ulcer located in the buccal mucosa and history of left arm paresis. He was successfully treated for primary syphilis in 2010. Some serological tests are required: HIV, CMV, hepatitis and others. All results were negative, except for VDRL and FTabs, both positive. To elucidate the case, a lumbar puncture was performed, with positive result for syphilis, he was treated with ceftriaxone and got better from oral lesion, but paresis remained.

**Conclusion:** Despite available treatment, Syphilis is possible to reinfect. It is important to perform a serological screening when a patient presents with a chronic oral lesion with hard cure, to find out or exclude diseases that may cause it. As a reemerging disease, doctors may always be alert to the diagnosis. It is also important to explain to the patient the importance of sexual protection, for the risk of reinfection

**Key words:** syphilis, neurosyphilis, oral ulcer.

#### 8014. Oroantral fistula as a complication of dental implant - case report

Fernando Martins Cruvinel, Camila Chulu Lorentz, Debora Cury Ribeiro, Sergio Bittencourt, Ivo Teles Melo Andrade, Juliana Guimarães Garcia Cunha, Daniela Guimaraes Garcia Cunha Otorrinoseal

**Introduction:** The Oroantral Fistula is an abnormal communication between the maxillary sinus and the oral cavity. It is commonly due to trauma, dental infections, tooth extraction or iatrogenic complications of endodontic treatment, as we see in this case report.

**Objectives:** The aim of this case report is to guide professionals through the management of this disorder, with special attention to the appropriate technique employed on the surgical approach.

**Case report:** TSDA, female, 72 years old, diabetic and hypertensive, performed dental implant approximately 5 years

ago, without success due to bone resorption. Three years ago she developed chronic sinusitis with fetid rhinorrhea, refractory to conservative treatment. During physical examination, she presented bilateral oroantral fistula with drainage of fetid secretion. Computed tomography of the face and paranasal sinuses confirmed bilateral oroantral fistulas and revealed opacification and bone erosion of the floor of the maxillary sinuses, also bilaterally. Patient was submitted to surgical approach, which combined bilateral endonasal and external Caldwell-Luc access to close the oroantral fistula using titanium mesh and palatal and buccal flaps fixed with Vicryl. The patient maintained ambulatory follow-up achieving full symptom remission.

**Conclusion:** The diagnosis of oroantral fistula involves both clinic and radiographic procedures. The surgical correction needs combined technique to promote the closing of the fistula and the airing of the maxillary sinus and should be performed as early as possible.

#### 8024. Unilateral inverted papilloma with bilateral recurrence - case report

Juliana Guimarães Garcia Cunha, Camila Chulu Lorentz, Ludmila dos Reis Silva, Ivo Teles Melo Andrade, Daniela Guimaraes Garcia Cunha, Rita de Cássia Soler, Fernando Martins Cruvinel Otorrinoseal

**Introduction:** Inverted papilloma is rare benign tumor originated from the nasal mucosa and paranasal sinuses. It is relatively uncommon, majorly unilateral, with higher incidence in males in the fifth decade of life. It can cause unilateral nasal obstruction, epistaxis, hyposmia and recurrent rhinosinusitis. Originated from the lateral wall of the nasal cavity, tends to local destruction, recurrence and malignization in squamous cell carcinoma. Inverted papilloma may secondarily affect the maxillary, ethmoid, frontal and sphenoid sinuses. Diagnostic elucidation is important for treatment and follow-up. Surgical treatment is recommended and techniques, individualized.

**Objective:** Report case of unilateral inverted papilloma with bilateral recurrence.

**Case report:** TGS, 54 years old, unilateral nasal obstruction five months ago associated to hyposmia, rhinorrhea and facial pain. Rhinoscopy: whitish mass and mucopurulent rhinorrhea in right nasal cavity. Videonasofibroscopy: large amount of mucopurulent rhinorrhea, tumor of polypoid aspect with irregular surface and firm consistency filling the entire right nasal cavity. Computed tomography of face and paranasal sinuses: hyperdense material in nasal cavity, maxillary, ethmoidal and frontal sinuses, enlargement of the right ostiomeatal complex. A complete resection of the tumor was performed through endoscopic surgery with biopsy. After 3 months, relapsed bilaterally.

**Conclusion:** Inverted papillomas are uncommon and rarely affect nasal cavities bilaterally. Post-surgical follow-up is important because despite benign, inverted papillomas have aggressive behavior. The surgical procedure for resection must be thorough, with previous detailed radiological study of the tumor in order to be able to perform the best technique, remove it completely and reduce the risk of relapse.

#### 8025. Mentoplasty using inferior turbinate bone as autologous graft

José Luiz Teixeira Rodrigues, Julia Stabenow Jorge, Maira Garcia Martins, Luiz Carlos de Melo Barboza Junior, Carlos Alberto Caropreso, Bruna Natalia Freire Ribeiro HC-FMUSP

Mentoplasty is defined as surgery for aesthetic or repair of the chin. In cases of hypomentalism, with reduction of the anterior-posterior direction, the corrections aim at an increase of its projection. Various techniques and materials have been used. The most commonly used are alloplastics (Silicone, ePTFE and Porous Polyethylene). However, homologous grafts, which are those removed from the same individual, are preferable because they cause less unwanted reactions. Among these, fat, cartilage and osseous tissue have been used.

In cases of lesser retrognathia, the mentoplasty can be performed jointly to rhinoplasty as a complementary form, in order to achieve better facial harmony. In this report, we present a case of joint surgery between functional rhinoseptoplasty, turbinectomy and mentoplasty.

**Case report:** A 23-year-old female patient with a raised dorsum (hump) and lower turbinate hypertrophy due to rhinitis. The surgical proposal was the performance of rhinoseptoplasty associated to turbinectomy. Due to the scarcity of material supplied by the septum, the turbinates, after partial removal, were stripped of their mucosa, and the bones of both were grafted subgingivally into the denture. This technique allowed a satisfactory increase of the projection of the chin and better harmony of the elements of the face, associated to the respiratory benefits of function turbinectomy.

**Conclusion:** We present an unpublished case in literature of mentoplasty with the use of inferior bonnet osseous graft removed during functional rhinoplasty and turbinectomy.

#### **8028. Evaluation of second look mastoidectomy performed at a hospital between the years 2002 and 2011**

Oscar Loiola de Alencar Neto, Fernando Kaoru Yonamine  
Instituto de Assistência Médica ao Servidor Público Estadual de São Paulo

**Introduction:** Chronic otitis media is defined as any irreversible tissue change able to promote chronic inflammatory damage in the middle ear. The surgical treatment is variable, and is not exempted from complications or therapeutic failures.

**Objectives:** To evaluate the second look mastoidectomy performed at Hospital do Servidor Público Estadual de São Paulo.

**Methods:** A retrospective study was conducted through review of medical charts of patients who underwent second look mastoidectomy in the Hospital do Servidor Público Estadual de São Paulo between 2002 and 2011.

**Results:** from 16 patients who underwent second look mastoidectomy, all performed timpanomastoidectomy as the primary surgery. Of these, 81.25% needed to realize just 1 second look surgery; 12.5% needed 2 second look surgeries and 6.25% required 3 second look surgeries. Among the 16 cases, 10 had a diagnosis of cholesteatoma, which was the diagnosis of all cases requiring more than 1 second look surgery. The main sites of cholesteatoma in second look surgeries were the attic (9 cases), facial recess (3 cases), additus ad antrum and "the tympanic cavity" (2 cases each), the antrum, mastoid cavity, oval window and lateral semicircular canal (1 case each). The disease was better controlled by lowering the facial ridge.

**Conclusion:** The treatment of chronic otitis media is still the object of frequent treatment failure, which depends on various aspects of the chosen technique and the intrinsic conditions of each patient, as well as the characteristics of the disease itself.

**Key words:** chronic otitis media, second look mastoidectomy, cholesteatoma.

#### **8030. Adenoid cystic carcinoma of the nasal fossa: a case report**

Fhrancis Boechat de Marcos, Júlia Rodrigues Marcondes Dutra, Jader Costa dos Reis, Gustavo Felix, Eveline Tasca Rorigues, Edna Patricia Charry Ramirez, Thais Dias da Fonseca  
Universidade Federal Fluminense

**Introduction:** Cystic adenoid carcinoma is the second most frequent malignant tumor of salivary glands. It affects women and

men, in a ratio of three to two, with a higher incidence in the sixth decade of life, without a predisposing factor known. Although it grows slowly, it has very infiltrative pattern.

**Objective:** To report a case of a primary epithelial neoplasm of the nasal fossa, its surgical treatment and histopathological findings.

**Discussion:** M.T.S., 70 years old, reported nasal obstruction, rhinorrhea and epistaxis in 2015. Tomography showed mass with soft tissue density in the left nasal cavity in communication with nasal septum, leading to obstruction of the middle meatus ipsilateral. At the examination, suggestive of papillomatosis, the patient was referred for surgery to excision of the lesion with a biopsy. The Histopathologic revealed nasal papilloma with no signs of malignancy, with periodic revision, after one year of postoperative period, returned epistaxis, being requested new paranasal sinuses tomography and resonance examinations showed a mass into left middle meatus. A biopsy was performed on a slide showed basal cell carcinoma. After mass excision with free margins, the histopathological result revealed cystic adenoid carcinoma. Radiation therapy indicated, still in joint accompaniment and regular imaging tests.

**Conclusion:** Adenoid cystic carcinoma of the upper airway is a rare tumor. This atypical case allows the evidence of late local recurrence in areas of complex anatomical structure, such as the nose, with a high degree of recurrences and metastasis to clinical follow up.

#### **6406. Trichophagia in children: an interesting case report**

Lucas de Abreu Lima Thomé da Silva, Cyro Lopes dos Santos, Bianca Mendonça de Almeida, Camila Pinheiro Junqueira, Ana Cristina da Costa Martins  
Septo - PUC

**Introduction:** The rapunzel syndrom is characterized by the trichobezoar formation of many different sizes that can obstruct the whole gastric chamber, usually affecting patients with psychiatric disorders that develop trichophagia. These patients generally present diffuse abdominal pain, nausea, vomit and diarrhea. During the phisical examination a palpable, mobile, and painless abdominal mass in the gastric topography can be found. Laboratory exams do not usually present alterations, but there are bibliographic reports that showed microcytic hypochromic anemia and hypovitaminosis a, d, e, k. The upper digestive endoscopy is, at the same time, a diagnosis and treatment. In addition, ultrasonography can be performed.

**Objective:** Report the rare occurrence of rapunzel syndrome discovered after the removal of hair from the oropharynx in a 7-year-old child.

**Case report:** A 7-year-old patient already undergoing psychological and psychiatric treatment is taken to the otorhinolaryngological emergency presenting sore throat and fever, while already in treatment with antibiotics (cefaclor) prescribed by the pediatrician. The oroscopy revealed a foreign body adhered to the tonsils crypt with discharge and necrosis. The foreign body was removed with a clamp and further identified as hair. At the end of the procedure, the parents report that the patient does trichophagia, the reason why the patient is in psicological treatment. The treatment for tonsillitis was modified from cefaclor to amoxicillin clavulanate and upper digestive endoscopy was requested.

**Conclusion:** Pathology with unexpected symptomatology affecting young women and rare in children.

# E-Posters

## Speech, Language and Hearing Sciences

### 6393. The Elastic Bandage use as a therapeutic resource to facilitate the performance of oral hygiene: experience report

Letícia Maria Malandrín da Silva  
Residencial Israelita Albert Einstein

**Introduction:** The Alzheimer disease entails the loss of cognitive and motor functions and can be associated to oral health's decline. Elderly with Alzheimer's disease, may present difficulties in handling saliva, fact that reinforces the oral hygiene's importance, because may occur choking and bronchoaspiration of infected spittle, culminating the development of pneumonia. (REAL, 2011).

One of the manifestations of Alzheimer's disease is muscle stiffness, which also affects the phonoarticulatory organs, leading to mouth opening difficulty and affecting the oral hygiene performance. (GURGEL, 2012).

The elastic bandage acts as tegumentary stimulus to change the behavior of motor units, increasing or decreasing the neural excitation, according to the objective and used technique. (Silva, et al, 2014)

**Objective:** Presenting one case in which the usage of elastic bandage is shown as a facilitator resource of oral hygiene performance.

**Method:** Case report on the speech therapy intervention with use of bandage in muscle masseter, with a relaxing target as therapeutic resource in an elderly lady that suffers high leveled Alzheimer's disease with mandibular locking and impairment of oral hygiene.

**Results:** It was observed oral's opening qualitative improvement of this elderly lady, which previously showed no functional oral opening. This fact promoted better hygiene performance, making teeth, tongue and cavity brushing possible. It was also observed that this hygiene promoted more comfort to her.

**Conclusion:** The elastic bandage use was an effective resource to promote masseter muscle relaxation, making oral opening and oral hygiene performance better.

### 6395. Masking level difference (MLD): literature review

Patrícia da Silva de Paula, Lilian Felipe  
Universidade Veiga de Almeida

Masking Level Difference composes a tests set for the central auditory processing behavioral evaluation and estimates decoding binaural interaction abilities. MLD test consist of auditory level measurement by emitting a pulsatile clear tone to both ears, at the same moment as a masker rustle is being emitted. This work has the objective of reviewing literature over MLD, providing general information concerning to the test. Binaural Interaction Tests evaluate central auditory nervous system (CANS) on processing dissimilar information, but complementary, emitted to both ears. The rustle has the objective of masking the auditory signal, in a permanent stage. On that test, the individual is submitted simultaneously to an auditory signal and to a rustle. However, emitting a rustle to the other ear becomes the auditory sign more audible. MLD is a psychological/auditorial phenomenon, in which detection or recognizing a binaural or monoaural sign emitted, is improved adjoining a competitive binaural rustle. An individual is normally evaluated at the same stage (speaking, pulsatile tone, masker rustle in both ears) and in a different stage (one of the signs is emitted to 180°C [356°F] in a diverse way from the initial one, just to one ear, while the other one is kept in a reverse stage). The test allows identifying individuals with compromised low brainstem.

**Key words:** Masking Level Difference, MLD, masking, auditory processing.

### 6399. Late diagnosis for velocardiofacial syndrome

Melissa Zattoni Antoneli, Andréa Cristina de Almeida Santos Farah, Rhaissa Heinen Peixoto, Bruna Tozzetti Alves  
Hospital de Reabilitação de Anomalias Craniofaciais - Universidade de São Paulo

**Introduction:** Velocardiofacial syndrome (VCFS) comprises variable physical and behavioral signs, including congenital heart disease, hypoparathyroidism, immunodeficiency, neurocognitive disorders, cleft palate and velopharyngeal insufficiency. Management requires a multidisciplinary approach and early diagnosis could improve general outcomes, but the lack of recognition of the condition together with the wide variability of clinical presentation delays diagnosis. In the literature, VCFS diagnosis occurred from 4 to 17 years (Tatum et al, 2002) or average 8 years in a reference center for craniofacial anomalies (Brandão, 2010).

**Objectives:** To report a case of late diagnosis of VCFS starting with an otolaryngologic complaint.

**Resumed report:** 14 years old female showed up at Otorhinolaryngology service with a initial nasal obstruction complaint. In a three months later follow-up, a hypernasal speech was observed. No signs of cleft palate were identified, so the patient underwent nasoendoscopy and velopharyngeal insufficiency was observed during speech. The patient was referred to the Hospital for Rehabilitation of Craniofacial Anomalies - University of São Paulo (HRAC-USP) for further investigation. The genetic evaluation identified clinical signs of Velocardiofacial Syndrome. Perceptive speech assessment revealed hypernasal resonance, weak intraoral pressure, language impairment and learning disability. Hearing evaluation was normal. Videofluoroscopic measures revealed a velopharyngeal disproportion and after nasoendoscopy, which showed a circular velopharyngeal gap during speech, a pharyngeal flap was indicated in order to achieve velopharyngeal sufficiency and allow speech rehabilitation.

**Conclusion:** Otorhinolaryngologists have an important role in diagnosis and treatment of VCFS and should be aware of the typical history and most frequent manifestations of this condition.

### 6405. Learning factor influence on the perceptual-auditory analysis

Marina Taborda Englert, Ingrid Gielow, Glauycia Madazio, Jorge Carlos Lucero, Mara Behlau  
Universidade Federal de São Paulo - Unifesp; Universidade de Brasília - UNB; Centro de Estudos da Voz - CEV

**Introduction:** Auditory training needs to be learned and gives a greater reliability for the vocal perceptual auditory analysis that is subjective.

**Objective:** To investigate the learning factor during a perceptual-auditory analysis for three different groups on an unusual task.

**Method:** 269 listeners, divided in three groups: 73 voice specialist speech language pathologist (SLP), experienced group (EG); 84 non-voice specialist SLP, non-experienced group (NEG), and 112 non-SLP, naive group (NG). They were submitted to a listening section that included 18 synthesized and 18 human voices with different types and degrees of deviation (50% of repetition for intra-rater consistency analysis). The task was to classify the voices as human or synthesized. The learning factor was analyzed; this analysis verified if there were more errors at the beginning or at the end of the analysis.

**Results:** EG showed learning factor, less error at the end of the task (25.5%), than at the beginning (28.6%) with statistical difference ( $p=0.024$ ). The error percentage of the beginning and the end of the task did not differ for the NEG and the NG (NEG beginning=36.5%; GNE end=35.3%; NG beginning=38.3%; NG end=37.7%).

**Conclusion:** The EG was the only group to present the learning factor. It seems that professional experience positively influences the perceptual-auditory analysis which reinforces the impact of its training to become a voice specialist. Moreover, the voice specialists seems to be more prepared and to use learning strategies to improve his performance during a perceptual-auditory analysis task even if unusual.

**Key words:** Voice disorders, Auditory perception, Judgment.

**6410. Laryngeal manual therapies for behavioral dysphonia: a systematic review and meta-analysis**  
 Vanessa Veis Ribeiro, Kelly Silverio, Mara Behlau, Vanessa Pedrosa Vieira  
*Centro de Estudos da Voz / Universidade de São Paulo*

**Introduction:** Dysphonia that has as its etiology inappropriate vocal behavior is classified as behavioral dysphonia. Among the possibilities of treatment are the various types of laryngeal manual therapy, that seek to promote a muscular balance that enables the phonatory normofunction. It is believed that it is necessary to systematically review clinical trials on laryngeal manual therapy to provide concrete scientific evidence about their effectiveness and assist the clinician in choosing the most effective treatment for behavioral dysphonia.

**Objectives:** To review systematically the literature and to analyze the effectiveness of laryngeal manual therapy in addressing the overall severity of vocal deviation, the intensity of vocal and laryngeal symptoms, and musculoskeletal pain in adults with behavioral dysphonia.

**Data Synthesis:** Two independent authors selected clinical trials that analyzed the effectiveness of laryngeal manual therapy compared with other interventions in the treatment of adults with behavioral dysphonia from the Cochrane Library, PUBMED, Web of Science, and LILACS. A total of 2135 studies were identified, three of which met the selection criteria. Data analysis showed an unclear risk of 100% of performance bias and 66% of detection bias, in addition to a 33% high risk of selection bias. Low statistical and clinical heterogeneity were found. No significant difference was found in the relative risk of improvement with laryngeal manual therapy and with other interventions.

**Conclusion:** Various types of laryngeal manual therapies are available with similar objectives and effects, but their effectiveness is equivalent to that of other interventions involving direct voice therapy.

**6417. The influence of Sleep Disorders on Voice Quality**  
 Bruna Rainho Rocha, Mara Behlau  
*Universidade Federal de São Paulo*

**Introduction:** Sleep deficiency may contribute to voice handicap and vocal disorders. However, the relationship between sleep and vocal disorders is still uncertain.

**Objective:** To verify the influence of sleep quality on the voice.

**Methods:** Data were collected by an on-line or printed survey, divided in 3 parts: 1. Demographic data and vocal health aspects, 2. Self-assessment of sleep and vocal quality and the influence that sleep has on voice, and 3. Sleep and voice self-assessment inventories - Epworth Sleepiness Scale (ESS), Pittsburgh Sleep Quality Index (PSQI) and Voice Handicap Index reduced version (VHI-10). 862 participants (493 women; 369 men), mean age of 32 years old (range from 18 to 79 years-old).

**Results:** The perception of the influence that sleep has on voice showed a difference ( $p<0.050$ ) between measures of sleep and vocal self-assessment. There were higher scores on the ESS, PSQI and VHI-10 if sleep and vocal self-assessment were poor. Also, the greater the effect that sleep has on voice, the greater the perceived voice handicap. The aspects that influence a voice handicap are: vocal self-assessment, ESS total score and self-assessment of the influence that sleep has on voice. The presence of daytime sleepiness is a damaging factor ( $OR<1$ ) against perceived voice handicap.

**Conclusion:** Sleep quality influences vocal. Poor sleep quality is related to a poor vocal quality. Individuals with a voice handicap perceive a greater influence of sleep on voice than those without.

**6420. Nonlinear dynamic vocal analysis from vocal production of patients with unilateral vocal fold paralysis**  
 Regina Aparecida Pimenta, Domingos Hiroshi Tsuji, Adriana Hachiya, Maria Eugenia Dajer, Monike Tsutsumi, Arlindo Neto Montagnoli  
*Universidade de São Paulo*

**Introduction:** Patients with unilateral vocal fold paralysis show several vocal disorders. Therefore, they need a careful voice assessment for differential diagnosis and treatments.

**Objective:** the aim of this study is to characterize the voice from patients with unilateral vocal fold paralysis by using nonlinear dynamic vocal analysis.

**Methods:** we selected 35 voice signals from adult patients (11 men, 24 women; average age: 57.45 years old). We conducted a perceptual analysis and a nonlinear dynamic vocal analysis(NL). In the perceptual analysis, we consider the following parameters of visual analogue scale: overall degrees (G), roughness (R), breathiness (B), tension (T) and instability in phonation (I). In the NL analysis we consider qualitative data: number of loops, regularity and convergence degree; as well as quantitative data: standard deviation of dispersion (SDD) and of the axis (SDA). We also run the Spearman correlation statistical analysis.

**Results:** the perceptual analysis indicated a moderate intensity in vocal deviation for both genders. The NL analysis has shown a decrease of periodicity. There are correlations among convergence and roughness ( $p <0.001$ ); regularity, breathiness ( $p: 0.0023$ ) and tension ( $<0.001$ ); SDD, SDA, roughness ( $p: 0.013$ ;  $p: 0.017$ , respectively) and breathiness ( $p: 0.009$ ,  $p: 0.004$ , respectively) for males and convergence, breathiness ( $p: 0.013$ ) and tension ( $p: 0.023$ ); regularity, and breathiness ( $p: 0.001$ ); SDD and breathiness ( $p: 0.007$ ); SDA, roughness ( $p: 0.019$ ) and tension ( $p: 0.007$ ) for women.

**Conclusion:** In this study, we were able to characterize the voice of patients with unilateral vocal fold paralysis using the nonlinear dynamic vocal analysis.

**6421. Rehabilitation of swallowing after subtotal resection of vestibular schwannoma: a case report**

Bruna Saurin, Eveline de Lima Nunes, Simone Augusta Finard  
*Hospital de Clínicas de Porto Alegre*

**Introduction:** Vestibular schwannoma is a benign neoplasm originating from the Schwann cells of the vestibular portion of the vestibulocochlear nerve. Individuals with this disorder typically have progressive sensorineural hearing loss, tinnitus, imbalance, and facial paralysis. Despite slow growth, the tumor can reach or compress noble structures, such as the brainstem and other cranial nerves. On these rare occasions, problems of phonation, ataxia, cognitive impairment and dysphagia can occur.

**Objectives:** To describe the process of swallowing rehabilitation with dysphagia therapy after subtotal resection of vestibular schwannoma.

**Resumed report:** A patient male 25 years old was submitted to a surgical procedure for subtotal resection of the right vestibular schwannoma. During the hospital stay, the patient presented aspiration pneumonia and diagnosis of moderate to severe neurogenic oropharyngeal dysphagia, according to videofluoroscopic assessment. After hospital discharge, the patient was referred for swallowing assessment, with results of moderate to severe oropharyngeal dysphagia and Funcional Oral Intake Scale of level 2. Swallowing exercises were performed, in addition to training of swallowing with postural and facilitatory maneuvers and safe swallowing recommendations for three weeks. After this period, it was identified a Funcional Oral Intake Scale of level 6, oral feeding of multiple consistencies, and mild oropharyngeal dysphagia, oral alterations with adequate compensation.

**Conclusion:** In the presented case, the dysphagia therapy, for the deglutition disorder identified after resection of the vestibular schwannoma, provided functional improvement of swallowing.

**Key words:** Neuroma, Acoustic, Deglutition Disorders, Rehabilitation.

**6430. Ear and hearing in oculoauriculovertebral spectrum**

Bruna Tozzetti Alves, Melissa Zattoni Antoneli, Mariza Ribeiro Feniman, Luiz Fernando Manzoni Lourencone, Cristiano Tonello  
*Hospital de Reabilitação de Anomalias Craniofaciais - Universidade de São Paulo*

**Introduction:** Oculoauriculovertebral spectrum (OAVS) or hemifacial microsomia is a congenital craniofacial disorder involving structures derived from first and second pharyngeal arches. Clinical

presentation is highly variable and main craniofacial findings involve microtia, mandibular hypoplasia, epibulbar dermoid and vertebral anomalies. External, middle and inner ear can be affected in this condition and microtia with external auditory canal atresia is the most common ear finding. Conductive and mixed hearing loss are commonly described.

**Objective:** To describe and correlate auricular malformation and hearing loss in individuals with OAVS.

**Methods:** In a retrospective transversal study model, 25 clinical charts of patients with OAVS were reviewed after Research Ethics Committee approval (1.818.192). Data related to genetic diagnosis, microtia classification, hearing antecedents, tonal and vocal audiometry and tympanometry were collected.

**Results:** Hearing loss was found in 83% ears with microtia, a statistically significant association. Conductive hearing loss was found in 66% ears with type 1 microtia. Type 2 microtia caused mixed (80%) and conductive (20%) types. Type 3 microtia caused conductive (52%) and mixed (47%) types. Hearing loss degree was mild in most ears with type 1 microtia (66%) and severe in most ears with type 2 and 3 (80%). CT scan of the temporal bones revealed middle ear malformation in types 2 and 3 microtia.

**Conclusion:** Microtia is associated with hearing loss in most OAVS cases. Hearing loss type and degree apparently deteriorated as the microtia type increased. Attention should be given to cases with mild ear malformation, since hearing loss may be also present.

#### 6434. Scope of practice of audiologist in cancer care

Wellida Gardeny Silva, Priscila Feliciano de Oliveira, Nuala Catalina Santos Habib, Vanessa Menezes de Jesus, Cris Magna dos Santos Oliveira, Mayza Pereira Santos  
Universidade Federal de Sergipe

**Introduction:** Cancer treatment has a lot of side effects and hearing loss is one of them. Chemical substances, as chemotherapy drugs and radiation of radiotherapy can damage hair cells. Patients can have a sensorineural hearing loss, so it is important to have an audiologist as part of team to help to prevent hearing loss and improve patient's quality of life.

**Objective:** Highlight the importance of the audiologist in the multidisciplinary oncological team.

**Method:** Transversal cohort study carried out an Oncology Ward in a public hospital from northeastern of Brazil (Aracaju-Sergipe) approved by the Ethics and Research Committee under protocol # 33665014.7.0000.5546. We delivered hearing educational flyers, Hearing health guidance for patients and for their relatives; we had participated of multidisciplinary team clinical meetings and we assessed pure tone audiometry in patients.

**Results:** The audiology service at the cancer clinic has been in operation since 2012 and it is the unique in cancer service of Sergipe. We were invited to two multidisciplinary clinical meetings and our effort was to elucidate to them that cancer treatment can cause hearing loss. We delivered 278 flyers and 49 of them had cancer. Average age was 55,4 ( $\pm 16,06$ ) and 59,2% were female. Most of them were rural workers (20,4%). Breast cancer was the most incident (34,7%), followed by prostate (18,4%) and head and neck (16,3%).

**Conclusion:** Patients, relatives and multidisciplinary team know little about hearing disorder induced by cancer treatment so the audiologist as part of a team can improve patients quality of life.

#### 6435. Comparison of audiometric test in cancer patients performing chemotherapy and/or radiotherapy

Lisley Kelly Santos de Aguiar, Vanessa Menezes de Jesus, Nuala Catalina Santos Habib, Grasiella Pereira Ferreira, Cris Magna dos Santos Oliveira, Priscila Feliciano de Oliveira, Luana Thaynara Correia de Souza  
Universidade Federal de Sergipe

**Introduction:** Cancer is considered one of the major problem in public health. In spite of having a lot of therapeutic methods to make the patient survive or to be cured, it still has a high mortality rate. As known, the most common treatments have many side effects,

one of them is hearing loss. This kind of problem is irreversible and it is urge hearing monitoring to prevent hearing loss or performing the diagnosis allows the use of hearing aids. Objective: To evaluate auditory function of cancer patients and to compare referential and sequential examination.

**Method:** Transversal cohort study carried out an Oncology Ward in a public hospital of Aracaju-SE approved under protocol # 33665014.7.0000.5546. Anamnesis and audiological evaluation was performed in 20 cancer volunteers. All patients were evaluated in two moments with conventional pure tone audiometry, and the time difference between the two was two months. For the comparison of the exams, the ASHA criterion (1994) was used, which considers as threshold elevation of 20dBNA on an isolated frequency or the elevation of 10dBNA thresholds in two consecutive frequencies or the absence of responses in three consecutive frequencies.

**Results:** Patients who have normal hearing thresholds in both exams, 33,3% presented worsening thresholds in frequencies of 2, 4, 6 and 8kHz ( $p<0,05$ ). 42,8% had hearing loss in the reference exam and they had worsening thresholds in sequential exam in 8kHz frequency ( $p<0,05$ ).

**Conclusion:** Cancer treatment can cause sensorineural hearing loss and worsening of hearing thresholds in therapeutic procedure course.

#### 6436. Evaluation of central auditory processing in children affected by stroke: a systematic review of the literature

Andréia Rodrigues Parnoff Stadulni, Priscila Sleifer, Eliane Schocat, Claudine Devicari Bueno  
Universidade Federal do Rio Grande do Sul

**Introduction:** Stroke in children are rare events that can cause clinical neurological deficits. The integrity of the auditory system is essential for the process of language appropriation to take place efficiently. Central Auditory Processing Disorder (TPAC) refers to the difficulty in processing the perception of auditory information in the central nervous system, causing impairment in one or more auditory abilities. Thus, children diagnosed with stroke constitute a risk group.

**Objectives:** To verify the evaluations of Central Auditory Processing, both electrophysiological and behavioral in children affected by Cerebral Vascular Accident (Stroke).

**Data Synthesis:** Data collection was done at the electronic bases PubMed, Scopus and Scielo in July of 2016. For the bibliographic search the following descriptors were used: stroke, auditory perception, childhood, child and evoked potentials auditory. Initially 15 studies were found, and the final selection resulted in three articles that met the inclusion criteria and were considered relevant for the study sample. Because none of the included studies used Central Auditory Processing Disorder in their audiological assessments, we chose to perform a second search with the descriptors: "stroke" AND "children" AND "evoked potentials, auditory". In the same databases. With these descriptors, 36 articles were obtained. Of these, only one study was selected, in accordance with the established inclusion criteria.

**Conclusion:** There was a paucity of studies in the literature assessing central auditory processing through Central Auditory Processing Disorder in children with stroke.

**Key words:** stroke; auditory perception; children; evoked potentials auditory.

#### 6438. Accuracy of traditional and formant acoustic measures in discriminating patients with and without vocal deviation

Leonardo Wanderley Lopes, Vinicius Jefferson Dias Vieira, Deyverson da Silva Evangelista  
Universidade Federal da Paraíba

**Introduction:** Supraglottic adjustments may be related to the genesis, maintenance, or compensation of a voice disorder. Thus, it is important to investigate whether an integrated analysis of the acoustic measurements associated with the glottal and supraglottic source improves the performance in the classification of signals with and without vocal deviation.

**Objective:** To investigate the accuracy of traditional and formant acoustic measures for discriminating the presence or absence of vocal deviation.

**Method:** A total of 302 female patients participated. Acoustic measures of the fundamental frequency, jitter, shimmer, glottal to noise excitation ratio and the values of the first three formants were extracted. The presence of vocal deviation was determined in a 100-point visual scale, performed by three speech-language pathologists.

**Results:** In isolation, only the glottal to noise excitation ratio exhibited acceptable performance for discriminating healthy and deviant signals. There was a gain in the classification performance when the measures were combined. The best performance was obtained with the combinations of shimmer and glottal to noise excitation ratio.

**Conclusion:** In isolation, only the glottal to noise excitation ratio showed an acceptable ability to differentiate between individuals with and without vocal deviation. In general, the use of combined measures improved the performance of the classifier. However, the combination of traditional and formant acoustic measures did not show a better performance than when only traditional measures were combined.

**Key words:** voice, accuracy, acoustics, vocal quality, voice disorders.

#### 6439. Performance of recurrence quantification measurements in discrimination of roughness and breathiness in synthesized voices

Leonardo Wanderley Lopes, Mara Behlau  
Universidade Federal da Paraíba

**Introduction:** Roughness and breathiness are among the main markers of the presence of a voice disorder. The identification of a set of measures capable of identifying and differentiating the presence of roughness and breathiness may contribute to the development of new computerized systems for the analysis of dysphonic voices.

**Objective:** to analyze accuracy of recurrence quantification measurements for discriminating roughness from breathiness synthesized vocal signals.

**Method:** 871 synthesized /É/ vowel samples, 426 female and 446 male were submitted to perceptual analysis. Three speech-language therapists performed the auditory-perceptual evaluation, using a severity 100-point scale to identify the overall severity of vocal deviation, and identified the predominant vocal quality (rough or breath) in the deviated signals. For acoustic analysis, fifteen recurrence quantification measurements were extracted.

**Results:** Single measurements, such as averaged lengths of the diagonal lines and transitivity presented excellent performance ( $\geq 90\%$ ) to discriminate health vs. rough and breath voices. Embedding dimension had only acceptable performance ratings of  $\geq 70\%$  to discriminate between rough vs. breath voices. Combined measurements showed gain in classification rate, mainly on the discrimination between rough vs. breathy voices, with an accuracy rate of 85.33%.

**Conclusions:** Isolated recurrence quantification measurements showed excellent accuracy to discriminate between normal signals and rough/breath signals, and acceptable performance to classify rough and breath signals. The combination of recurrence quantification measurements improve discrimination between rough and breath synthesized voices.

**Key words:** voice, accuracy, acoustics, vocal quality, voice disorders.

#### 6444. The brazilian samba-school singer larynx

Thays Vaiano, Flávia Azevedo Righi Badaró, Luciano Rodrigues Neves, Glauycia Madazio, Mara Behlau  
CEV

During the Brazilian Carnival, parades are performed by thousands of individuals organized in samba schools, in a competition in which each group tries to outdo the others, both in terms of extravagant costumes, dance, choreography and music. The singers have the mission of interpreting the same song, the "samba-enredo", for almost two hours, without rest or pauses, under a very loud musical

accompaniment. Further on many attributions that any singer must have, the leading singer must thrill the audience with huge loud voice, screams, drives and a lot of energy to execute the choreography. This singer is typically a male mature individual, with no formal voice training and lack of vocal hygiene habits. Besides, unfavorable environmental conditions such as poor sound equipment quality, lack of auditory feedback and hot weather make this mosaic even more complex.

**Objective:** To analyze the samba-school singers larynx while singing a samba-enredo.

**Method:** 19 samba-school singers volunteered to participate and underwent nasoendoscopy. The recorded images were analyzed by one ENT and three SLP, by consensus.

**Results:** only 3 participants presented a normal larynx, 2 participants had lesions (vocal fold polyp and leukoplakia) and 14 presented some degree of laryngeal movement or alteration adjustment. The major common aspects were: opening angle asymmetry, arytenoid complex asymmetry and posterior dislocation of the cricoid joint, with signs of trachea pull.

**Conclusion:** There is an important association between this high volume singing and many asymmetrical laryngeal movements.

**Key words:** voice; larynx.

#### 6445. Performance of traditional acoustic and formantic measurements in the discrimination between women with and without laryngeal disorders

Leonardo Wanderley Lopes, Fernanda Pereira França, Vinicius Jefferson Dias Vieira  
Universidade Federal da Paraíba

**Introduction:** Patients with laryngeal disorder may present supraglottic adjustments in co-occurrence or compensatory to impairment at the glottic level. This fact justifies the need for an integrated investigation of acoustic measurements of glottic and supraglottic level in these patients. Aim: to determine the accuracy of traditional and formant acoustic measurements in discriminating between women with and without laryngeal disorders.

**Method:** 260 women who underwent laryngeal visual examination participated. Acoustic measures of the fundamental frequency, jitter, shimmer, glottal to noise excitation ratio and the values of the first three formants were extracted.

**Results:** Individual acoustic measurements do not demonstrate adequate performance in discrimination between women with and without laryngeal disorders. Combination of the traditional acoustic and formant measures achieved an acceptable performance in the classification of women with and without laryngeal disorders. Individual measures of jitter, first and third formants presented acceptable performance in distinguishing healthy larynx vs. Reinke's edema, and vocal fold paralysis vs. sulcus vocalis. The combination of traditional acoustic and formants measurements showed excellent performance in discriminating between healthy larynx vs. Reinke's edema and sulcus vocalis; and presented good performance in discriminating between healthy larynx vs. vocal fold paralysis, vocal polyps and voice disorder secondary to gastroesophageal reflux.

**Conclusion:** Individual formant and traditional acoustic measurements do not demonstrate adequate performance in discriminating between women with and without laryngeal disorders. The combination of traditional and formant measurements improves the discrimination between the presence and absence of laryngeal disorder and to differentiate several laryngeal diagnoses.

**Key words:** larynx, acoustic, voice disorders.

#### 6447. Prevalence of penetration and laryngotracheal aspiration in Parkinson's disease in rehabilitation center

Renata Rodrigues Silva, Suely Mayumi Motonaga Onofri, Evelyn Alves Spazzapan, Beatriz Novais Merola, Roberta Gonçalves da Silva, Paula Cristina Cola  
Universidade Estadual Paulista "Julio de Mesquita Filho" - Marília

**Introduction:** Laryngeal penetration and laryngotracheal aspiration are risk markers and classification criteria for the degree of

impairment of oropharyngeal dysphagia. The prevalence of dysphagia has been frequently studied in some neurological diseases, but it is still relevant to understand the epidemiology of penetration and laryngotracheal aspiration in specific neurologic diseases.

**Objective:** To identify the prevalence of laryngeal penetration and/or laryngotracheal aspiration in Parkinson's Disease.

**Method:** A retrospective cross-sectional clinical study. We analyzed 39 reports of swallowing videoendoscopy from 2006 to 2016, in the puree, thickened liquid and thin liquid consistencies, with a volume varying from 5 to 10 ml, performed at a Rehabilitation Center. For statistical analysis was used Fisher Test.

**Results:** Of the 39 (100%) individuals, 19 (48.71%) were female and 20 (51.28%) male, ranging from 43 to 85 years old (mean age 71 years old) and 29 of these individuals presented a classification of Hoehn & Yahr (1967) ranging from one to five. It was verified that 28 (71.79%) individuals did not present laryngotracheal penetration and/or aspiration and 11 individuals (28.21%) presented. In these 11 (28.21%), four (10.25%) presented penetration/aspiration in paste consistency ( $p=0.05$ ), nine (23.07%) in the thickened liquid ( $p=0.007$ ) and nine, (07%) in the thin liquid ( $p=0.02$ ).

**Conclusion:** The laryngotracheal penetration and aspiration had low-prevalence in this sample independently of the food consistencies tested.

**Key words:** Parkinson's Disease; Deglutition Disorders; Epidemiology.

#### 6448. Combined noise and rotating shift work for auditory and extra-auditory health of workers

Milena Raquel Iantas, Claudia Giglio de Oliveira Gonçalves  
Universidade Tuiuti do Paraná

**Introduction:** Increasing technological development and the expansion of market demand have meant that industrial activity has needed to extend production to 24 hours a day, resulting in multiple work shifts. In order to stay in the market, the worker needs to adapt to this reality by performing work in shifts, along with their possible health implications.

**Objective:** To analyze the impact of rotating shifts on the hearing health of workers exposed to noise.

**Methods:** A questionnaire and audiometry were performed with the workers. They were separated into two groups: Rotating Shift and Day Shift.

**Results:** It was verified that audiometric results depend on the shift ( $p = 0.0089$ ). The workers in the Rotating Shift group presented 2.76 times the chance of presenting NIHL, and the shift was considered a risk factor. A predominance of auditory and extra-auditory symptoms/ complaints was found in the Rotating Shift Group in relation to the Day Shift Group, but without a significant statistical relationship, except for headache and sleep disturbance. There were fewer occurrences of alterations and symptoms/ complaints in these workers than the ones reported in the literature. This may be justified by the use of hearing protection and by the actions performed in the hearing conservation program (HCP).

**Conclusion:** There is a necessity to implement a HCP that contains a systematic follow-up of the auditory health of the workers from the rotating shift.

#### 6455. A pictorial analysis of different therapeutic swallowing maneuvers at the light of high resolution manometry

Thays Vaiano, Bruno de Rezende Pinna, Fernando Herbella  
UNIFESP

Various swallowing maneuvers are used to rehabilitate patients with oropharyngeal dysphagia. The assessment of the motility of the pharynx, upper esophageal sphincter (UES) and proximal esophagus provoked by these maneuvers are still elusive. These structures have anatomical and functional peculiarities that hinder the accurate study of their motility with the technology traditionally available. High-resolution manometry (HRM) has characteristics that

make it more suitable for the study of the upper digestive tract. This study aims to present a pictorial atlas of HRM findings during therapeutic swallowing maneuvers.

**Material and Methods:** we studied 4 (50% males, mean age 27 years) volunteers that underwent HRM. Individuals were asked to perform the following swallowing maneuvers: chin tuck, head back, supraglottic swallow, super-supraglottic swallow, effortful swallow and Mendelsohn maneuver. UES pressures and position were recorded. All plots were reviewed by 2 experienced researchers.

**Results:** no changes were observed during chin tuck maneuver. Head back maneuver created an increase in the UES pressure before and after swallow. Supraglottic swallow incited a raise in pharyngeal pressure. Super-supraglottic swallow incited a raise in pharyngeal and esophageal pressures. Effortful swallow provoked a raise in pharyngeal and esophageal pressures, pressurization of the UES before swallow and elevation of the UES after swallow. Finally, Mendelsohn maneuver incited all described findings except esophageal pressurization.

**Conclusions:** The studied maneuvers triggered different responses of pharyngeal, UES and esophageal motility. Therapeutic maneuvers should be tailored to individual patients.

**Keywords:** swallowing, swallowing maneuvers, manometry.

#### 6457. Auditory-language aspects and family of children who have cochlear implant

Joice de Moura Silva, Midori Otake Yamada, Adriane Lima Mortari Moret, Elida Garbo Guedes, Julia Speranza Zabeu  
Faculdade de Odontologia de Bauru - FOB USP

**Introduction:** The familiar involvement in auditory habilitation and rehabilitation of children is considered one of the aspects more relevant in therapeutic process.

**Objectives:** Verify the correlation between the familiar permeability at therapeutic process and the speech and auditory performance with children who have a cochlear implant.

**Methods:** This research was approved by Ethics Committee (n. 61753416.0.0000.5441/2017). Participated in this study 15 children of both genders, with six to incomplete twelve years and with severe to profound bilateral hearing loss. These children had the cochlear implant surgery with until 42 months, had four to ten years of use of cochlear implant, and had speech- auditory therapy. Data of auditory and language categories was collected in the clinical register. The familiar permeability evaluation was done through the "Familiar Involvement Scale" with parents.

**Results:** The statistical analyses showed that children with more advanced auditory and language categories had parents more permeable to therapeutic process. The correlation between age at the surgery and period of use of the cochlear implant with auditory and language categories were not significant.

**Conclusion:** The permeability of families in therapeutic process influenced the performance of children even when have the surgery in sensitive period of auditory neural plasticity. The results with cochlear implant depends of multifactorial aspects and the age at moment of surgery such as a performance indicator do not act as an isolated factor.

**Key words:** Children, Cochlear Implant, Family, Hearing, Language.

#### 6463. Audiological findings in elderly: healthy x cancer treatment

Sabrina do Nascimento dos Santos, Priscila Feliciano de Oliveira, Nuala Catalina Santos Habib, Vanessa Menezes de Jesus, Cleiton Mateus Santos Siqueira, Bruna Vitória Batista de Andrade  
Universidade Federal de Sergipe

**Introduction:** Aging is one of the risk factors to develop cancer, as well hearing modifications known as presbycusis. Cancer's incidence in elderly people is raising and this kind of diagnosis related to hearing loss can cause quality of life impacts. OBJECTIVES: To compare hearing thresholds on healthy elderly people with elderly in cancer treatment.

**Methods:** Transversal cohort study carried out an Oncology Ward in a public hospital from northeastern of Brazil (Aracaju-Sergipe) approved by the Ethics and Research Committee under protocol #55351715.9.0000.5546. Audiological evaluation was performed in 74 volunteers of both genders, divided equally between two groups: G1: healthy elderly people and G2: elderly people in cancer treatment. G1, non oncology, was composed with no metabolic disease (including criteria). G2 was characterized of cancer patients, who were undergoing oncology treatment in a Cancer Department of the major public hospital of the town. The procedures, for both groups, were performed in two sections: anamnesis and conventional pure tone audiometry.

**Results:** Hearing loss was characterized by sensorineural type with worsening in the audiological framework from 3kHz in both groups. Cancer treatment group had worse normal hearing thresholds than healthy subjects. In auditory thresholds analysis of both groups we verified a significant difference at 1 and 6 kHz frequencies ( $p = 0,003$  e  $p = 0,001$ ). The most common complain was tinnitus in both groups but we noticed no significant difference between them.

**Conclusion:** Elderly people have hearing loss and cancer treatment group have a worsening hearing thresholds.

**Key words:** aging, hearing loss, cancer.

#### 6464. Adult speech recognition index using new lists of monosyllables and disyllables

Lidiéli Dalla Costa, Tais Regina Hennig, Maristela Julio Costa, Ana Valéria de Almeida Vaucher

Universidade Federal de Santa Maria

**Introduction:** In the basic audiological evaluation is essential to assess the performance of individuals in speech recognition tasks. For this, usually monosyllables are used, and when the percentage of correct answers is inferior to 88%, disyllables are applied, because they present semantic and linguistic clues that facilitate their recognition.

**Objectives:** To analyze and compare auditory performance of adults with sensorineural hearing loss using the Speech Recognition Percentage Index (SRPI), using as a stimulus new lists of monosyllables and disyllables.

**Method:** Twenty-one subjects from 19 to 64 years old, with mild to profound sensorineural hearing loss, totaling 34 ears, presented a performance in the SRPI of less than 88% with monosyllables. After the Pure-Tone Threshold Audiometry, the SRPI was investigated at the most comfortable listening level, with the new digitally recorded Monosyllables Lists (Vaucher&Costa, 2016) and Disyllables (Vaucher&Costa, in press), consisting of two lists with 25 monosyllables (L1 and L2) and five lists with 25 disyllables (LD-A, LD-B, LD-C, LD-D, LD-E).

**Results:** The mean values of the SRPI were 64.66%, 65.71%, 64%, 43.5% and 37.33% using monosyllables and 82.66%, 88%, 82%, 74.5% and 56% using disyllables, according to each degree of loss respectively, resulting in 18 to 31% of improvement in speech recognition when using disyllables.

**Conclusion:** The performance in the SRPI of the participants of this study, obtained through the new evaluation instrument, in digital recording, was better for the disyllabic words, when compared to the monosyllables, for all degrees of hearing loss.

**Key words:** Hearing; Hearing Loss; Speech Recognition.

#### 6466. Neuromuscular electrical stimulation associated with vocal therapy in the elderly: a case study

Eliana Maria Gradim Fabbroni, Rinaldo Roberto de Jesus Guirro, Giédre Berretin Felix, Kelly Silverio, Alcione Ghedini Brasolotto, Eduardo Carvalho de Andrade

Faculdade de Filosofia e Ciência da Unesp de Marília e Faculdade de Odontologia de Bauru/USP de Bauru

**Introduction:** Neuromuscular electrical stimulation has been studied as a coadjutant in vocal therapy.

**Objective:** To describe the effect of neuromuscular electrical stimulation associated with intensive vocal therapy in elderly.

**Methods:** A 67-year-old woman complaining of hoarseness and loss of vocal intensity with telolaryngostroboscopy

and nasolaryngofibroscopic exam describing vocal fold bowing, prominence of vocal processes and spindle-shaped glottic chink, underwent intensive vocal therapy with the support of neuromuscular electrical stimulation. The therapeutic proposal, of 12 sessions, consisted of vocal exercises developed with the purpose of gradually increasing vocal resistance and expanding the phonatory capacity. The parameters of maximum phonation time, volume and pitch range were worked. A pair of electrodes was placed vertically on the middle of the thyroid cartilage above the cricothyroid membrane and another on the submandibular region below the posterior horn of the hyoid bone. The intensity of current used in therapy was defined by monitoring during the initial laryngeal examination of the patient and corresponded to the moment of better glottic configuration. The therapeutic effect was evaluated by acoustic measurements of the KayPentax MDVP software.

**Results:** The Pre and Post therapy values were respectively: Average Fundamental Frequency/Hz=180.301 and 233.997; Jitter/%=0.934 and 0.315; Coefficient of Fundamental Frequency Variation/%=1.149 and 0.855; Shimmer/%=2.477 and 1.710; Coefficient of Amplitude Variation /%=11.787 and 7.959; Noise-to-harmonic ratio=0.157 and 0.111.

**Conclusion:** The proposal of intensive vocal therapy associated with neuromuscular electrical stimulation brought improvements to the voice of the elderly with positive changes in all measures analyzed.

#### 6467. Considerations on frequency compression activation: target matching and total harmonic distortion analysis

Luciana Garolla, Maria Cecília Martinelli Iório, Ana Karina Lima Buriti UNIFESP

**Objective:** To determine the effectiveness of the frequency compression algorithm activation in matching the NAL-NL2 target for the first fitting in the frequencies above 3Khz. The incidence of total harmonic distortion generated by the algorithm activation was also measured.

**Methods:** Two digital hearing aid brands with the frequency compression feature were programmed to four different audiometric configurations. The analysis of total harmonic distortion and target matching for filtered speech above 3Khz were performed using the test box of a hearing aid system analyzer (Audioscan Verifit VF-1) in two different moments: with frequency compression off and frequency compression on.

**Results:** There was no first fitting target matching in any test conditions for all hearing aids tested. The average difference to targets was 7,5 dB above targets for FC On and 9,7 dB above targets for FC Off for hearing aid brand A and 1.8 dB below targets for FC On and 0.8 dB below targets for FC Off for hearing aid brand B. The presence of harmonic distortion in 4 kHz was observed when the frequency compression feature was enabled in both tested brands.

**Conclusion:** The simple activation of frequency compression for the first fitting does not assure target matching above 3Khz. Its activation can also generate significant levels of sound distortion on high frequencies. The data gathered on this study reinforces the necessity of performing electroacoustic verification in order to evaluate the real efficacy on frequency compression activation.

**Key words:** Hearing aids; perceptual distortion; deafness; hearing impairment; acoustics.

#### 6468. The elastic bandage as a therapeutic resource for the control of sialorrhea: an analysis of its efficacy

Brenda Carla Lima Araujo, Carla Patrícia Hernandez Alves Ribeiro César, Laura Verena Correia Alves, Lavinia Vieira Dias Cardoso, Géssica Matos de Oliveira, Claudia Sordi, Sínthia Stéfanny Souza da Silva Universidade Federal de Sergipe

**Introduction:** The salivation excess is called sialorrhea and it may be caused by neurological problems or lesions affecting the oral mucosa. In subjects with Cerebral Palsy, it can cause social isolation, wet clothes, facial dermatitis, unpleasant odor, chewing and speech

alterations. The elastic bandage has been used as an instrument to reduce sialorrhea, due to increased proprioception.

**Objectives:** To verify the effectiveness of elastic bandage in the supra-hyoid muscles in patients with Cerebral Palsy.

**Methods:** Prospective clinical study with analysis of the technique of standardized applications of elastic bandage during two months, with changes performed three times per week. In order to analyze the efficacy of the procedure, questionnaires were applied (quality of life, control of saliva swallowing, frequency and severity of sialorrhea) and an evaluation of the staging of sialorrhea in pre and post-therapy periods was performed. Two groups of four patients were compared: one called Espera Assisida (Assisted Waiting), in which the guidelines were given for passive maneuvers in the region of the supra-hyoid musculature; and another, Experimental (Experimental), in which only the elastic bandage was applied.

**Results:** There was a decrease in sialorrhea and an improvement in the quality of life in all subjects of the Experimental group. However, no progress was observed in the Assisted Waiting group.

**Conclusion:** Elastic bandage was effective for the control of sialorrhea in the Experimental group, contributing to the reflection about non-invasive phonotherapeutic procedures.

**Key words:** 1. Therapy, 2. Speech therapy, 3. Methods.

#### 6471. Analysis of the relation between the confidence scale on balance and depression in the elderly.

Amanda Monteiro Magrini, Teresa Maria Momensohn dos Santos  
Pontifícia Universidade Católica de São Paulo

**Introduction:** The aging process is constant and determined by the relation that exists between the biological and functional capacities of the individual. It is known that disturbances of balance and hearing interfere in the quality of life of the elderly.

**Objective:** To analyze the relation between the confidence scale in the balance and the depression in the elderly.

**Method:** Research approved by the Ethics Committee, nº43831015.1.0000.5482, performed with 150 patients attended at a hearing aid delivery service at SUS, in the city of Belém-PA. The following instruments were used: activity-specific balance confidence scale (ABC), geriatric depression scale (GDS), and two self-perception questions related to dizziness. The data were submitted to statistical analysis.

**Results:** 63.3% (n = 95) were female (dp = 7.6) median of 72 years, 66.7% had primary education and 60% (n = 90) were married. 63.3% of the subjects reported dizziness and 60.7% (n = 91) reported dizziness or difficulty in balance in the last 12 months. 48% indicated a low functioning on the ABC scale, 58.7% presented depression. Statistical analysis showed that there is a statistically significant relation between the performance on the ABC scale and the responses on the depression scale. The lower the degree of confidence the higher the number of subjects with indicative of depression ( $p = 0.011$ ).

**Conclusion:** The self-perception of the elderly regarding their difficulty in balance and dizziness is confirmed by the data obtained regarding depression and balance.

**Key words:** Postural balance; Aged; Depression.

#### 6480. Risk index prevalence for hearing loss in neonates - A database description

Cinthia Martins Fernandes, Mariene Terumi Umeoka Hidaka  
PUC-Campinas

**Introduction:** The auditory system integrity is a prerequisite for the adequate development of language. Early diagnosed alterations can reduce the future consequences for newborns.

**Objectives:** Correlate risk index for hearing loss findings in neonates at a city of São Paulo state with literature data.

**Methods:** This research was divided in three steps: search for data for low weight, prematurity and apgar level indicators in newborns, available in Brazilian Unified Health System database, from 2011 to 2015; selection of published articles in the last 5 years, according to the inclusion criteria and relevance test; estimation

the number of neonates with the development risk for hearing loss. Resultse: Of the 77.419 newborns in this time, 13.226 showed at least one of the described risk indicators. It was noted that 44% of the neonates showed more than one indicator, and 2 articles that correlated hearing loss with its risk factors were found in the database. It is estimated that 2 to 4% (265 to 530 subjects of this research) of the newborns in the group of risk can develop the deficiency.

**Conclusion:** The secondary data available in the database makes it possible to carry out epidemiological studies. The neonatal universal hearing screening program has an essential role in identifying and diagnosing the hearing loss in the first months of life, providing an early intervention of the deficiency and improving the newborn's quality of life.

**Key words:** Risk Index, Neonatal Screening, Audiology, Hearing Loss.

#### 6481. Sleepiness daytime, quality of sleep and quality of life in patients with resistant hypertension with mild Obstructive Sleep Apnea.

Alessandra Bastos de Sousa, Elizabeth Silaid Muxfeldt, Mariana Pinheiro Brendim  
Universidade Federal do Rio de Janeiro

**Introduction:** Sleep apnea is strongly associated with resistant hypertension. Although most of the studies address patients with moderate/severe obstructive sleep apnea, evidences in the literature indicate that the disease in a mild degree can also lead to adverse consequences.

**Objectives:** to analyze daytime sleepiness and the quality of sleep and life in resistant hypertensives with mild obstructive sleep apnea.

**Methods:** A total of 43 resistant hypertensives (81% female, mean age 65+11 years) diagnosed as mild obstructive sleep apnea by polysomnography were enrolled. Epworth Sleepiness Scale, the Pittsburgh Sleep Quality Index and the SF36 Health Survey were applied. Sociodemographic and anthropometric data, cardiovascular risk factors and blood pressure were registered. Statistical analysis compared all data of patients with negative or positive questionnaires. Continuous data were described as mean and categorical data were described as proportions.

**Results:** Obesity was present in 49% of patients and 79% referred physical inactivity. A total of 43% of the patients presented daytime sleepiness. They were younger with worse results in the vitality and social aspects of quality of life. According to Pittsburgh questionnaire, 37% of the patients had sleep disorders. This group used more antihypertensive and presented worse functional capacity.

**Conclusion:** Even mild sleep apnea can cause symptoms that can influence in quality of sleep. Sleep disorders and daytime sleepiness influenced the quality of life especially in the vitality and social aspects.

**Key words:** Sleep Apnea, Obstructive; resistant hypertension; quality of sleep; polysomnography; quality of life.

#### 6482. Relationship between drug treatment and quality of life in patients with dizziness

Priscilla Cristina dos Santos Martins, Dinah Eloisa Lago Londero, Bianca Nunes Pimentel, Valdete Alves Valentins dos Santos Filha  
Universidade Federal de Santa Maria

**Introduction:** Dizziness, sensation of rotational movement or imbalance, interfering with the maintenance of body balance, can be evaluated through the Dizziness Handicap Inventory, a quality of life questionnaire, also used to evaluate the effects of otoneurological treatment.

**Objective:** To compare the handicap of dizziness in patients with and without drug treatment.

**Methods:** Research approved under CAAE 16728013.0.0000.5346, retrospective, through a database composed of 467 patients, referred to the Otorhinolaryngology outpatient clinic of a university hospital from 2012 to 2017. Inclusion criteria: age from 18

years, complaint of dizziness, drug treatment for dizziness, anamnesis and the Dizziness Handicap Inventory.

**Results:** 61 patients, 48 (78,69%) women and 13 (21,31%) men. Most of patients reported dizziness (37 - 60,65%) and use of medicines (51 - 83,61%), being: 24 (39,34%) Hypertension, 22 (36,07%) Psychotropic, 17 (27,87%) Hypercholesterolemia, 15 (24,59%) dizziness and six (9,84%) Diabetes Mellitus. There was no relationship between drug treatment for dizziness and reduction of handicap in the domains of the questionnaire ( $p>0,05$ ). There was a relationship between all domains and older age ( $p<0,01$ ) and vertigo ( $p<0,03$ ); use of psychotropics with emotional, functional and total domains ( $p<0,01$ ); Hypertension and the emotional, functional and total domains ( $p<0,01$ ). The use of medicines for Diabetes Mellitus and Hypercholesterolemia did not present relation.

**Conclusion:** Age and vertigo interfered in all aspects. The use of psychotropics has compromised the emotional and functional domains. Drug treatment for dizziness did not provide a reduction of handicap in this sample.

**Key words:** Dizziness; Quality of Life; Vertigo.

#### 6483. Relationship between deaf and sound phonemas stabilized in simple initial onset in the phonological system of subjects with phonological disorder

Amanda Lucas, Laura dos Santos Abon Zahr, Karoline Terezinha Quaresma, Laura Fabiana Burkhard, Bruna Santos Sant'Anna, Letícia Pacheco Ribas, Bárbara Luísa Simonetti

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** The production of plosives and fricatives by subjects with Phonological Disorder is frequently affected by desorption, which is characterized by the absence of correct distinction as to the sonority trace, that is, the subject uses the [-voice] segment when the target is the phoneme [+voice].

**Objective:** This study aims to verify the relationship between the establishment of plosives and fricatives with traces [+voice] in individuals with Phonological Disorder.

**Method:** Cross-sectional study with secondary data (CEP995.344), of subjects with Phonological Disorder. To analyze the data the production of targets with plosives and fricatives in initial single settling was verified; the phoneme was considered acquired when the production obtained more than 80% of correct occurrences.

**Results:** Data from 130 subjects between 4 and 10 years old were analyzed. These had acquired 80% of the plosives and 66.5% of the fricative phonemes; 83% had acquired deaf phonemes and 63.4% had sound phonemes. In the group of plosives 92% had acquired the deaf phonemes, while 67.9% had acquired the sonorous ones. In the group of fricatives 74.1% acquired the deaf phonemes, while 58.9% the sonic phonemes. As the articulation point, it is easier to plosives lip (87.6% correct), followed by coronal plosives and fricatives lip (81.9% each), followed by coronal plosives (78.8%), dorsal plosives (73.4%), alveolar fricatives (70%) and, finally, palato-alveolar fricatives (47.6%).

**Conclusion:** This analysis shows that subjects with Phonological Disorder present easier to acquire than fricatives plosives, deaf phonemes than sound and anteriorized phonemes than posteriorly.

**Key words:** Speech; Child Language; Language Disorders; Speech Sound Disorder.

#### 6485. Modifications in the adherence and self-assessment post-speech therapy: urica-voice and vocal symptom scale in secondary functional dysphonia

Jade Zaccarias Bello, Mauricéia Cassol , Kariny Zencke da Silva  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** In clinical voice practice, only the patients can provide information about the experience with their vocal problem. The investigation of vocal symptoms and adherence to therapy may help to understand the functional, emotional, and physical impacts of dysphonia.

**Objectives:** To report the case of a patient with a diagnosis of functional dysphonia secondary to the approach of ventricular

bands. He was assisted by the voice sector, belonging to the otorhinolaryngology department of a hospital linked to Unified Health System.

**Resumed report:** Approved by the Ethics and Research Committee no.1.788.628. Patient C.J.B., male, 63 years old, with otorhinolaryngological diagnosis of anterior fusiform chink, associated to the approach of ventricular bands. In the initial evaluation, the patient was in the motivation stage of pre-contemplation in the URICA-VOICE scale and scored a total of 55 in the Vocal Symptom Scale (VoiSS). After participating in a personalized therapeutic program during 10 weekly sessions of 30 minutes, the reevaluation evidenced the stage of contemplation in URICA-VOICE and 46 points in the VoiSS.

**Conclusion:** Speech therapy was responsible for changes in the patient's perception regarding his vocal symptoms, observed through a decrease in total VoiSS score and improved adherence to treatment.

**Key words:** Voice; Dysphonia; URICA-VOICE; Vocal Symptom Scale.

#### 6502. The relationship between tritonal mean of hearing threshold and measurement of speech intelligibility of children with phonological disorder

Kariny Zencke da Silva, Amanda Faleiro, Renata Pereira Prates, Amanda Lucas, Bárbara Luísa Simonetti, Alessandra Fraga da Ré, Letícia Pacheco Ribas

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Phonological Disorder is idiopathic and it occurs in child who presents, mainly, consonant changes in speech after the expected acquisition. One of the criteria for diagnosis is that the child has not hearing loss. Among the examination tests, the Tonal Threshold Audiometry is realized for to eliminate the possibility of hearing loss in these children.

**Objective:** To analyze the tritonal mean of hearing threshold and to observe the analyze the speech intelligibility by the degree of severity in Phonological Disorder from secondary data.

**Methods:** Quantitative descriptive study with analysis of secondary data (approved 995.344). The database presents evaluations of children with Phonological Disorder. It was verified the hearing threshold of 20 children (40 ears), from 5 to 10 years old, with Phonological Disorder. The degrees are 4 types: medium, medium-moderate, moderate-severe and severe and 5 subjects were analyzed for each type. We performed the mean of tritonal mean for compare with severity degree. The data underwent statistical analysis with ANOVA test for comparing the means.

**Results:** The results of the right ear were: the children with medium and moderate-severe degree had 7 dB the mean of tritonal mean; medium-moderate, had 9 dB. The left ear, the medium degree had 6.66 dB; medium-moderate, 9 dB; moderate-severe, 7.3 dB; and severe, 10.78 dB. In the statistical analysis, the right ear presented  $p=0,822$  and the left ear presented  $p=0,338$ .

**Conclusion:** The results in this study contribute to show that there is no relation between tritonal mean of hearing threshold and degree of speech intelligibility of children with Phonological Disorder.

**Key words:** Hearing Threshold; Degree of speech intelligibility; Phonological Disorder.

#### 6503. Speech intelligibility in the phonological disorder: two analyzes proposals

Kariny Zencke da Silva, Letícia Pacheco Ribas

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Phonological Disorder occurs in child who presents, mainly, consonant changes in speech after the expected acquisition, and this event is idiopathic. There are measures that analyze the speech intelligibility by the degree of severity of different forms. Among them there is the segmental (Shriberg,1997), observing the consonantal production, and the distinctive features (Lazzarotto-Volcão, 2008), considering the consonant-plosives, fricatives, nasals and liquids classes.

**Objective:** To present two analyzes for the degree of severity of the Phonological Disorder observing these measures for the same children.

**Methods:** Quantitative descriptive study with analysis of secondary data. The sample was extracted from a database and comprised the phonological evaluation of 40 children diagnosed with Phonological Disorder. Through the phonological evaluation of each child, the speech severity was measured based in the segmental analysis and in the analysis of distinctive features.

**Results:** The segmental analysis we obtained as measures: 12 children presented medium degree; 19, medium-moderate; 4, moderate-severe; 5, severe. The distinctive feature analysis was obtained: 29 children presented mild degree; 6, moderate; 3, moderate-severe; 2, severe.

It was evidenced that all the children with medium degree in the segmental proposal presented a mild degree in the proposal by distinctive feature, the contrary is not veritable.

**Conclusion:** The analyzes were created with different perspectives, although the same objective: to give a measure to the degree of severity. This study obtained low agreement between segmental analysis and analysis of distinctive features for the same children.

**Key words:** Speech Intelligibility; Phonological Disorder; Segmental analysis; Distinctive feature analysis.

#### 6505. Correlation between phonological processes and founds of behavioral auditory processing tests

Nátili Romano

ATEAL (Associação Terapêutica de Estimulação Auditiva e Linguagem)

**Introduction:** An adequate speech language development depends on a functioning auditory system. Therefore, children with auditory processing disorders are in a higher risk to develop a language disorder, including phonological processes disorders.

**Objective:** To analyze the relationship between some phonological process in children with phonological disorders and their results of behavioral tests of auditory processing.

**Methods:** A transversal and retrospective study with fourteen children between seven and 12 years old, with phonological disorders, which have experienced behavioral tests of auditory processing. Their phonological disorders were classified into: Liquid Simplification, Devoicing and Palatal Fronting. We classified Auditory Processing Disorders into: decoding, coding, organization and nonverbal. Descriptive and specific statistics tests were applied to define the relation between phonological process and auditory processing results.

**Results:** Auditory processing was altered in almost all subjects (93%). The major auditory processing disorder was in decoding category, within 79% of them presenting this disorder. Statistics comparison between phonological processes and auditory processing categories showed a significant dependence between liquid simplification process and integration category, devoicing and nonverbal category, and fronting palatal and nonverbal category. There were no statistically significant dependence between any of the processes and coding or decoding categories.

**Conclusion:** There is a high prevalence of auditory processing disorders in the subjects of this study. These results also reveal that nonverbal category can be influencing on some phonological disorders of these subjects, and that children with phonological disorders should have their auditory processing evaluate.

**Key words:** Speech, Language and Hearing Sciences; Central Auditory Processing; Speech Disorders.

#### 6514. Profile assisted by speech therapy population: integrative literature review

Tiago Roberto Gomes Rosa, Andrea Wander Bonamigo, Vânia Carolina Devitte Ruiz

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** The speech language therapist has established itself as an active and very important in promoting professional, health prevention and rehabilitation. Therefore, it is imperative that the speech language therapist inserted in public

health knows how to identify speech language disorders in order to better target health strategies according to the reality of their community. The speech therapy aims to promote health with strategies outlined as women's health, child, adult and elderly by presenting orientation programs of language development, speech, hearing and stomatognathic functions (sucking, chewing, swallowing, breathing and speech articulation).

**Objective:** Conduct a survey of studies on the profile of patients referred to speech therapy services in public clinics or schools according to gender, age and the most frequent speech language disorders.

**Methods:** exploratory integrative review in the databases LILACS, Medline and Scielo with the intersection of terms related to the scope of the subject. Only articles in Portuguese were accepted between the periods from 2007 to 2016. The relevant articles were selected from the inclusion and exclusion criteria applied to the summary and the full text.

**Results:** The initial electronic survey found 307 publications, of which 80 were excluded because they were repeated, 215 were excluded from the analysis summary and 3 deleted after the full text of the articles. 9 publications were eligible for the study.

**Conclusion:** Through this study, there was a prevalence of male patients, aged between 0 and 12 and with language disorders.

#### 6517. The impact of metalinguistic ability on the phonological inventory of children with Phonological Disorder

Bárbara Luísa Simonetti, Iasmim Kasprczak, Amanda Faleiro, Laura dos Santos Abon Zahr, Laura Fabiana Burkhard, Letícia Pacheco Ribas, Alessandra Fraga da Ré

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Children with Phonological Disorder have a poorer language development compared to other children of the same age group, however, they may present normal access to phonological representations and attempt to convey adequate meaning in their words.

**Objective:** To assess the impact of phonological awareness skills in phonological inventory of children with phonological disorder, considering such a performance in varying degrees of severity of speech.

**Method:** The results of speech-language evaluations of a database (VALDEF-CEP 995344) were analyzed, the sample of this study was made up. The sample had linguistic data of the phonological evaluations of all children who performed the phonological awareness test from the Sequential Assessment Tool - CONFIAS. For the analysis of these data was used the computer statistical program of the series VARBRUL, GoldVarb X.

**Results:** It was observed that there is a possible relationship between the performance in the phonological awareness abilities and the different degrees of severity of speech, since children with medium / moderate-moderate degree of severity had a superior performance in the CONFIAS test. Children with moderate-severe / severe severity presented an inferior result in the phonological awareness test.

**Conclusion:** It can be concluded that the work carried out in the speech-language therapy clinic is extremely important, since the child's reorganization of his deviant phonological system also improves his phonological awareness ability, and vice versa.

**Key words:** Speech Sound Disorder; Child Language; Language Tests; Language Development.

#### 6518. Incidence of dizziness in high risk pregnant women attended at a University Hospital, associating to pathologies - In the preliminary results

Valdete Alves Valentins dos Santos Filha, Lícia Assunção Cogo, Kamila Elizabeth Teixeira Fernandes

Universidade Federal de Santa Maria

**Introduction:** Hormonal changes in pregnancy may result in impairment of labyrinth fluid homeostasis, which, together with

changes in the sensitivity of the enzymatic receptors, influence the metabolism of the inner ear and can justify otological symptoms in women.

**Objective:** Verify the incidence of dizziness in high risk pregnant women attended at a University Hospital, associating to pathologies.

**Methods:** Observational, cross-sectional, preliminary descriptive study conducted between February and May 2017 in 16 puerperae, from 19 to 43 years old, attended at high risk prenatal care. Approved in the Ethics Committee under the CAE 16728013.0.0000.5346. A questionnaire about gynecological history, current gestation and balance complaints during pregnancy was applied.

**Results:** In the preliminary results are 16 puerperae, mean age of 31.43 ( $\pm 6.97$ ), mean of 2.25 ( $\pm 1.43$ ) gestations. 62.5% of the pregnant women reported a dizziness complaint, 50% of the non-rotational type and 50% of the rotational type. Besides, 80% of pregnant women who reported dizziness reported associated pathology, but the chi-square test ( $p=0.55$ ) did not present statistical difference. Patients with dizziness reported the following conditions: Pre-eclampsia, Systemic Arterial Hypertension, Specific Hypertensive Disease of Gestation, Diabetes Mellitus, Diabetes Mellitus Gestational, Hypothyroidism and Human Immunodeficiency Virus. Of the women who presented dizziness during pregnancy, 40% had irregular sleep, with approximately six hours of sleep.

**Conclusion:** There is a high incidence of dizziness in pregnant women attending the High Risk Prenatal Clinic of a University Hospital, usually concomitant with some pregnancy-associated pathology.

**Key words:** dizziness, pregnancy, pathology.

#### 6523. Sequence of pierre robin and the multidisciplinary follow-up: case report in infant hospitalized in sus.

Vânia Carolina Devitte Ruiz, Tiago Roberto Gomes Rosa  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** The Pierre-Robin sequence comprises a triad of anomalies characterized by micrognathia, glossoptosis and cleft palate. It manifests itself clinically due to respiratory discomforts and problems in swallowing, being the management a great challenge since there is no consensus as to the best treatment and conduct against such pathology.

**Objective:** To describe the physical and phonoaudiological characteristics of a 30 - day - old infant hospitalized by the single health care system in the hospitalization sector of a referral hospital in pediatrics, the report aims to describe the Speech and Hearing care provided during the hospitalization period, The evolution, the importance of this management and the maternal training in the care with the child.

**Casereport:** Hospital admission was due to bronchoaspiration, difficulty feeding, frequent episodes of choking, fatigue, apnea and vomiting. He needed orotracheal intubation and used noninvasive mechanical ventilation. After a speech-language evaluation, diagnosis of severe oropharyngeal dysphagia was concluded.

**Conclusion:** There was no indication of clinical evaluation of swallowing due to the high risk of tracheal aspiration. In the clinical treatment, feeding techniques, non-nutritive stimulation, extra and intraoral sensorial motor stimulation, manual support of the mandibular support and use of special nozzles were introduced. Initiated the interventions the infant began to present pattern of suction, swallowing of saliva, stopped the accumulation and the extra oral escape of saliva besides the decrease of the inspiratory stridor.

#### 6524. Relation between phonological awareness and otitis media in children with speech sound disorder

Allessandra Fraga da Ré, Letícia Pacheco Ribas, Bruna Santos Sant'Anna, Bárbara Luísa Simonetti, Karoline Terezinha Quaresma, Renata Pereira Prates  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Studies indicate that children with a history of otitis media may present difficulties in the skills required to learn reading and writing, among them, they have metalinguistic awareness.

The metalinguistic awareness is a metalinguistic ability that allows us to reflect on the association of speech sounds with those of writing.

**Objectives:** To verify if there is a relation between the level of lowered metalinguistic awareness and the history of otitis media in children with Speech Sound Disorder

**Methods:** Data from 130 children, aged 5 to 10 years, from the VALDEF Database (CEP 995344), diagnosed with Speech Sound Disorder, were analyzed. The data of the subjects with a history of otitis media were included and, posteriorly, the level of metalinguistic awareness was evaluated, based on the CONFIAS instrument. Those that did not contain the CONFIAS evaluation were excluded, totaling a data sample of 63 children.

**Results:** Of the entire sample, 31% of the children with a history of otitis media presented lowered metalinguistic awareness, with 6% with syllable level only, 9% at phoneme level and 15% at both levels.

**Conclusion:** The results demonstrate that there is no relation between the history of otitis media and a lowered level of metalinguistic awareness in children with Speech Sound Disorder. However, the majority of the children with altered metalinguistic ability presented lowering at both syllable and phoneme levels.

**Key words:** Otitis Media, Speech Sound Disorder, Child Language.

#### 6525. The knowledge of primary care health providers about dysphagia and speech therapist practice

Alexandra Carlos Ribeiro Alves, Demian de Oliveira e Alves, Lenice de Fátima da Silva Munhoz  
Instituto de Estudos Avançados da Audição - Ieaa

**Introduction:** Primary Health Care is the first contact and coordinator of access-ensuring health practices. There is still a shortage of publications on speech therapy at this context of care, especially with a specific focus such as dysphagia. Dysphagia and its complications affect quality of life, increase morbidity, mortality and rehospitalization rates and it's a public health concern.

**Objective:** To verify the knowledge of Primary Health Care professionals regarding dysphagia and speech therapy practice, before and after a presentation about these topics.

**Methods:** Cross-sectional study carried out in Basic Health Care Units. A questionnaire with questions related to dysphagia and speech therapy practice was elaborated and applied before and after an explanation on the theme: 110 healthcare providers participated.

**Results:** The proportion of people who knew what is dysphagia went from 34.3% to 79.2% ( $p <0.0001$ ). There was a significant increase in the index of right answers after the exposition - before and after averages: 3.36 and 6.87 for suggestive clinical signs ( $p <0.0001$ ), 4.87 and 7.53 for risk factors ( $p <0.0001$ ) and 4.27 and 5.01 for areas speech therapy practice ( $p <0.0001$ ).

**Conclusion:** Primary Health Care providers' factual knowledge about dysphagia and speech therapy practice is still limited. The explanation used on this subject was effective in increasing the knowledge and can be a strategy to sensitize providers that gatekeep the health care network about the importance of detection of patients at risk for dysphagia and to perform adequate referrals.

**Key words:** Deglutition Disorders; Speech Therapy; Education, Continuing.

#### 6528. Analysis of association between the use of ototoxic drugs and the results of newborn hearing screening

Caroline Santana Real, Pricila Sleifer, Dayane Domeneghini Didoné, Maristela Cavalheiro Tamborindeguy França, Letícia Wolff Garcez, Jordana Balbinot, EriSSandra Gomes  
Universidade Federal do Rio Grande do Sul

**Introduction:** Ototoxic drugs can directly injure the organ of corti, causing degeneration of inner and outer hair cells. The use of ototoxic drugs is considered a risk indicator for hearing loss and, in cases of presence of these indicators, the Newborn Hearing Screening should be performed with the Automatic Brainstem Auditory Evoked Potential. Purpose: To verify the possible association

between the use of ototoxic drugs and the results of Newborn Hearing Screening.

**Methodology:** This study was approved by the Ethics and Research Committees (number 1.571.131 and 16097). It is a cross-sectional and retrospective study, which the analysis of a database with 190 patients. The results of the test and retest of the Newborn Hearing Screening were compared with the use of ototoxic drugs.

**Results:** Of the 157 neonates who used ototoxic drugs, 134 passed, 16 failed, and seven did not perform the Newborn Hearing Screening. Of the children who failed, six continued to fail in the retest. Of the 33 neonates who did not use ototoxic drugs, none failed in the test. There was no statistically significant difference between the use of ototoxic and the results of the Automatic Brainstem Auditory Evoked Potential ( $p > 0.05$ ).

**Conclusion:** There was no association between the use of ototoxic drugs and the results of Newborn Hearing Screening. However, children who used ototoxic drugs had a higher rate of failure in the assessment, and one of them was diagnosed with bilateral sensorineural hearing loss.

**Key words:** Hearing, Neonatal Screening, Risk Factors, Physiological Effects of Drugs.

#### 6537. Self-perception of the immediate effect of SOVTE in amateur choir singers

Diego Henrique da Cruz Martinho, Ana Carolina Constantini  
Unicamp

**Introduction:** The semioccluded vocal tract exercises (SOVTE) are common during the management and in prevention of dysphonia as well as in vocal warming up for professional voice users. This study investigated, in amateur choristers, the immediate effect of three SOVTE: Phonation into a latex tube (LaxVox®), finger kazoo and phonation into a high-resistance straw.

**Methods:** Participants in this study constituted an intact SATB choir (soprano, alto, tenor, and bass) subdivided into high and low. The voice samples were recorded before and after each subject perform the exercises randomly during three subsequent weeks. A self-assessment questionnaire was applied.

**Results:** Most of the subjects felt improvement in vocal quality. 11 (84.62%) of the low voices rated the LaxVox® as being the most effective, while 10 (79.92%) rated the high-resistance straw as the least effective. For the high voices, the high-resistance straw 9 (69.2%) was the most effective and the least effective were Finger Kazoo (46.15%) and the LaxVox (38.4%).

**Conclusion:** The study demonstrates that although the exercises are part of SOVTE, their effects are different and should be appropriate for each type of voice. The LaxVox® proved to be more suited to low voices and less suited to high voices and the high-resistance straw was better suited to high voices, accordingly the subjects' self-perception. It was evidenced the need to adapt the exercises accordingly to the voice classification. There is no study that evidences effects of SOVTE according to the vocal classification or the size of the tract of the subject.

#### 6538. Analysis of the specific knowledge of the speech-language pathologists about compulsory notification of speech-language-related diseases in worker's health.

Viviane Fontes dos Santos, Viviane Moreira Franco, Elinaldo Leite Quixabeiro, Geórgia Rosangela Soares Luz, Anelisse Vasco Mascarenhas de Freitas

1º Centro de Referência em Saúde do Trabalhador - Regional Rio de Janeiro

**Introduction:** The Resolution of the Federal Council of Speech, Language and Hearing Science (FCSLHS) 428/2013 discourses about the work of the speech-language pathologists in the worker's health area, who must notify the compulsory speech-language-related diseases to the Health Information Systems (HIS). The noise induced hearing loss (NIHL) is a disease of compulsory notification according to the ordinance 205/2016 of the Ministry of Health. In the state of Rio de Janeiro the Resolution SES-RJ 674/2013 determines

the compulsory notification of the occupational dysphonia. The aim of this research is to analyse the knowledge about both the speech-language pathologists on the compulsory notification of the diseases in worker's health and the current legislation.

**Methods:** Speech-language pathologists voluntarily answered questions about worker's health, HIS and about NIHL and the occupational dysphonia being diseases of compulsory notification, the latter in Rio only, and also about their knowledge on the Resolution of the FCSLHS about worker's health.

**Results:** Of the 119 volunteers, 72% informed knowing about the worker's health, 43% had already heard about HIS, 54% knew about the NIHL compulsory notification, 45% knew about the dysphonia compulsory notification in Rio and 52% knew the Resolution 428/2013.

**Conclusion:** The knowledge of the speech-language pathologists about the compulsory notification of the NIHL and of the occupational dysphonia is still insufficient as well as their knowledge about HIS and the specific legislation of the FCSLHS. We highlight that in the Academy the worker's health and HIS topics are still limited, which supports our results.

#### 6552. Auditory and electroacoustic assessment in patients with head and neck cancer

Daniela Gil, Pâmela Fukazawa, Sarah da Silva Santos  
Universidade Federal de São Paulo

**Introduction:** Head and neck cancer occupies fifth place among the most frequent neoplasms in the world. Usually, radiotherapy and/or chemotherapy are combined to the surgical treatment. Drug ototoxicity along with radiation may result in irreversible hearing losses, which may compromise patient's quality of life.

**Objective:** The aim of this study was to describe auditory and electroacoustic findings in patients with head and neck cancer and to compare them with individuals without the disease.

**Methods:** This prospective study was carried out in two groups: Study Group - individuals with history of head and neck cancer submitted to chemotherapy and/or radiotherapy; and Control Group - individuals without the disease. The following procedures were carried out: meatoscopy; conventional pure tone, high frequency, and speech audiometry; and transient evoked otoacoustic emissions.

**Results:** Study sample was composed of 23 individuals in each group, matched by age and gender. Comparison of pure tone audiometry results between study and control groups showed statistically significant differences in 3, 6, 8, 10, and 12.5 kHz, with better auditory tonal thresholds being observed in the control group. No statistically significant differences were observed between groups for all parameters assessed by transient evoked otoacoustic emissions (general response and frequency band responses).

**Conclusion:** Individuals with history of head and neck cancer show higher pure tone thresholds than their controls, especially in high frequencies. Electroacoustic assessment was similar in both groups.

**Key words:** Speech, Language, and Hearing Sciences; Hearing; Head and neck neoplasms, Chemotherapy, Radiotherapy.

#### 6553. Effectiveness of electromyographic biofeedback in the voice-related quality of life of women with behavioral dysphonia: a randomized clinical trial

Vanessa Veis Ribeiro, Amanda Gabriela de Oliveira, Jhonatan da Silva Vitor, Kelly Silverio, Alcione Ghedini Brasolotto  
Universidade de São Paulo

**Introduction:** Voice-related quality of life is a subjective and multidimensional parameter that contributes to understanding the implication of behavioral dysphonia in social, cultural, physical, emotional and organizational domains.

**Objectives:** To analyze the effectiveness of electromyographic biofeedback in the voice-related quality of life of adult women with behavioral dysphonia.

**Methods:** Randomized, controlled and blind clinical trial (Research Ethics Committee 1'235'463). Twenty-two women with

behavioral dysphonia were randomly allocated into two groups: Experimental Group (EG) - eleven women underwent traditional vocal therapy associated with electromyographic biofeedback (Biotrainer® software), with electrodes in the suprathyroid and sternocleidomastoid muscles; Placebo Group (PG) - Eleven women performed traditional vocal therapy associated with placebo electromyographic biofeedback (Miograph® software). Both groups performed the same therapy, with eight sessions of 30 minutes, twice a week. The Voice-Related Quality of Life (V-RQOL) was addressed to the participants before, immediately after, one month and three months after the therapy. The data were analyzed using Friedman Test, two-way ANOVA and Tukey Test ( $p \geq 0.05$ ).

**Results:** There was significant increase ( $p = 0.037$ ) was observed in the total domain of V-RQOL in PG three months after the therapy when compared before therapy. There was no difference between the evaluations and between groups in the other domains.

**Conclusion:** The results showed that the electromyographic biofeedback was not effective in improving the voice-related quality of life of women with behavioral dysphonia.

#### 6554. Risk factors of hearing loss and audiological status in newborns from neonatal intensive care unit

Jordana Balbinot, Caroline Santana Real, Letícia Wolff Garcez, Maristela Cavalheiro Tamborindeguy França, Erissandra Gomes, Priscila Sleifer, Dayane Domeneghini Didone

Universidade Federal do Rio Grande do Sul

**Introduction:** The newborn hearing screening is important to earlier detection of hearing loss. The risk factors of hearing loss consists in prenatal, perinatal and postnatal complications and the permanence in neonatal intensive care unit is the most frequent risk factor. The evaluation with Automatic Brainstem Auditory Evoked Potential is the recommended procedure in these cases.

**Objective:** Describe the results of newborn hearing screening, its possible association with the risk factors of hearing loss and the audiological status of newborns from neonatal intensive care unit.

**Methods:** This study was approved by the Ethics and Research Committees (number 1.571.131 and 16097). This is a transversal and retrospective study, in which a database composed of 190 newborns, evaluated with Automatic Brainstem Auditory Evoked Potential, was analyzed.

**Results:** In this study, 17 neonates failed in the test. Of those who accomplish the retest, seven passed and six failed. Of these, one failed in the reevaluation. There was no association between the risk factors and the results of newborn hearing screening ( $p > 0.05$ ). The most frequent risk factors of hearing loss, in cases of failure, was the prolonged use of ototoxics medication associated with the permanence in neonatal intensive care unit. One newborn was diagnosed with suspect of auditory neuropathy spectrum disorder.

**Conclusion:** The prolonged use of ototoxics associated with the permanence in neonatal intensive care unit was the most frequent risk factors, however there was no association with the newborn hearing screening results.

**Key words:** risk factors; neonatal screening; intensive care units; hearing loss.

#### 6559. University teachers' voice-related quality of life

Lucia Helena Ribeiro, Adriana Bender Moreira de Lacerda

Universidade Tuiuti do Paraná

**Introduction:** Teachers' vocal health and its relation to the work environment point to the existence of risk factors. In the classroom work, voice is one of the main resources as it is responsible for oral communication and for the interpersonal relationship in the process of didactic mediation, which justifies the investigation on university teachers' vocal health.

**Objective:** The study objectives to analyze teachers' perception on their voice-related quality of life.

**Methods:** The methodology comprised a self-applied questionnaire with ten questions related to the subjects' perception on their voice-related quality of life, according to the domains. Fifty

teachers from a public university in Southern Brazil answered the questionnaire.

**Results:** Results show vocal complaints as well as significant gender differences. Most teachers do not feature any impact on their voice-related quality of life based on the mean scoring of socioemotional (93.50%) and physical domains, and on the total scoring (87.20%). However, correlations between teaching time length and the scoring of physical and total domains were observed.

**Conclusion:** It can be concluded that teaching activity may harm university teachers' voice-related quality of life, thus justifying the implementation of preventive voice-related actions.

**Key words:** dysphonia, worker's health, risk factors, voice, voice quality.

#### 6575. Description of the audiological and sociodemographic profile of patients assisted in a high-complexity service in the south of the country

Adriana Bender Moreira de Lacerda, Patrícia Arruda de Souza Alcarás, Débora Lüders, Claudia Giglio de Oliveira Gonçalves, Amanda Blum Besten

Universidade Tuiuti do Paraná

**Introduction:** The audiological profile may provide contributions to the organization of the service, aiming at health promotion in the population.

**Objective:** To characterize the audiological profile of the population assisted in the Audiology Sector of the School.

**Methods:** A cross-sectional study. The data collection was done through the analysis of the medical records of patients.

**Results:** A total of 443 medical records were analyzed, with a female prevalence (231). The professionals who most performed the most referrals for auditory evaluation were the Otorhinolaryngologists (47.85%). Among the auditory complaints, 96.72%, the main clinical antecedent reported was tinnitus (44.24%). Hearing loss (30.92%) was the main complaint. Regarding the auditory findings in relation to the age group, the type of loss of greatest occurrence was of a mixed type and neurosensory loss of the age group above 61 years old. The tympanometric curve that prevailed was type B in both ears in the age group of 0 to 7 years. Regarding gender, the comparison of auditory thresholds presented a significant difference, being worse in females. The type of loss that prevailed in females was conductive and neurosensory, and in males it was the mixed type. The female tympanometric curve was type A and the male was type C, bilaterally.

**Conclusion:** The users' audiological profile that the audiological findings present specific characteristics, with significant differences, according to age and gender.

**Key words:** Auditory perception, auditory abilities, hearing.

#### 6578. Non-cholesteatomatosus chronic otitis media and central hearing processing disorder

Márcia Salgado Machado, Sady Selaimen da Costa, Adriane Ribeiro Teixeira

Universidade Federal do Rio Grande do Sul

**Introduction:** The literature on the effects of otitis media on central auditory processing is restricted to studies in subjects with otitis media with effusion, and there are no studies that demonstrate central auditory processing in subjects with chronic otitis media.

**Objective:** To investigate and analyze the impact of non-cholesteatomatosus chronic otitis media on central auditory processing of adolescents.

**Methods:** This was a cross-sectional observational study in which 68 adolescents were recruited, 34 with a diagnosis of chronic non-cholesteatomatosus otitis media (study group) and 34 adolescents with no otological history (control group), who were matched by age, gender, family income and maternal schooling. The subjects' evaluation consisted of: anamnesis, pure tone audiometry, logoaudiometry and behavioral evaluation battery of central auditory processing (Masking Level Difference, Synthetic Sentence Identification with ipsilateral competitive message, Random Gap Detection Test, Duration Pattern Test, Digit Dichotic Test).

**Results:** There was a statistically significant difference between the means observed in the study and control groups in all tests performed.

**Conclusion:** There is a relationship between chronic otitis media and central auditory processing in adolescents, and figure auditory background was the most affected auditory mechanism.

#### 6582. Therapeutic intervention in childhood masticatory disorders: a retrospective study

Marina Ferrão Garavello da Silva, Natália Gomes Valério, Cláudia Maria de Felício  
Faculdade de Medicina de Ribeirão Preto

**Introduction:** The alterations in the masticatory function are the most common orofacial myofunctional disorders in children with malocclusion.

**Objective:** Evaluate retrospectively the evolution of masticatory function in children who underwent on myofunctional therapy in a Speech Therapy school clinic during orthodontic treatment.

**Methods:** Forty seven records of patients between 6 to 12 years old (mean age=  $9.1 \pm 1.6$  years) were included on the study. It was extracted from the record set the demographic data records and the results of the masticatory evaluation in the diagnostic phase (T1) and after a minimum number of 6 therapy sessions (T2). Masticatory evaluations was based on the validated Protocol of Orofacial Myofunctional Evaluation with Scores - AMIOFE (Felício, Ferreira 2008) and included the analysis of bite, masticatory type, presence/absence of associated behaviors suggestive of dysfunction, as well as the chewing timing. Myofunctional therapy included preparatory exercise for the orofacial muscles (mobility and controlled contraction) and masticatory training. The non-parametric Wilcoxon test was used for T1 and T2 comparison (significance level,  $P < 0.05$ ).

**Results:** The masticatory function score was significantly higher in T2 than T1 (median score: 10 X 8,  $P < 0.001$ ) and the chewing timing decreased (median: 54.4 X 47.6,  $P = 0.003$ ).

**Conclusion:** Patients achieve normal parameters of masticatory function after the orofacial myofunctional therapy associated to the orthodontic treatment, and the results are favorable for the craniofacial growth and development.

**Key words:** Children chewing; Stomatognathic system; Myofunctional therapy.

#### 6584. Prevention of the risk of bronchoaspiration in patients with oropharyngeal dysphagia by means of informational signs

Brenda Carla Lima Araújo, Layanne Ferreira dos Santos Carmo  
Universidade Federal de Sergipe

**Introduction:** Bronchoaspiration is one of the most serious manifestations that can affect dysphagic patients and evolve to aspiration pneumonia, prolonging hospitalization and its costs.

**Objective:** To prevent the risk of bronchoaspiration in patients diagnosed with oropharyngeal dysphagia using informative signs.

**Methods:** Descriptive study, approved by the ethics and research committee of the Federal University of Sergipe. It was developed in the medical clinic I (diagnostic investigation), medical clinic II (infectology / pneumology), surgical clinics and intensive care unit of the University Hospital of Sergipe, from February to May 2017. Patients in the age group  $\geq 18$  years old, both genders, diagnosed with oropharyngeal dysphagia and risk of bronchoaspiration, were approached from the application of the protocol of clinical evaluation in hospital bed and by complementary examinations, such as deglutition videoendoscopy. After deglutition structural and functional assessments, the speech therapist enrolled at the patient's bedside the informational sign about the risk of bronchoaspiration. The management of the use of the signs occurred through communicating with Speech, Language and Hearing Sciences professionals.

**Results:** Signaling the risk of bronchoaspiration was performed in 28 patients, 53.5% ( $n = 15$ ) were female. 44.5% were diagnosed with severe oropharyngeal dysphagia, 7.5% with moderate

to severe dysphagia, 19% with moderate dysphagia, and 28% with mild to moderate dysphagia.

**Conclusion:** The insertion of informational signs about the risk of bronchoaspiration in hospital environment is a promising measure for preventing respiratory complications in patients with oropharyngeal dysphagia.

**Key words:** Disease Prevention; Speech, Language and Hearing Sciences; deglutition disorders.

#### 6586. Correlation between the change in vocal quality and the severity of the dysphagia in stroke

Marcelo Henrique Ferreira, Bruno Francisco de Fraga, Sheila Tamanini de Almeida, Mauriceia Cassol, Jade Zaccarias Bello  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Dysphagia is often found in patients with stroke and is associated with clinical complications such as pneumonia, dehydration, and malnutrition. Among the parameters investigated in cases of dysphagia is the alteration of vocal quality, once the reduction in laryngeal elevation and the reduction of upper airway protection are some of the predictive factors of aspiration risk.

**Objectives:** To verify the correlation between alteration of vocal quality and the severity of dysphagia in post-stroke patients.

**Methods:** This is a cross-sectional study with a sample of 65 individuals, consisting of 38 males and 27 females, attended in a stroke unit, with no history of other associated neurological pathologies and without prior speech-language intervention. For the overall voice evaluation, the parameters of grade (G), roughness (R), breathiness (B), astheny (A), strain (S) and instability (I) of the GRBASI scale were correlated with the four possible severity ratings of the Gugging Swallowing Screen (GUSS) scale, Normal, Mild, Moderate, and Severe.

**Results:** There was a significant difference in the correlation of the G, R, B, A and I parameters when compared to the GUSS scale. There was also a significant difference when correlating the GRBASI and GUSS scales with the age of the individuals affected by stroke.

**Conclusion:** There was a correlation between vocal quality alteration and dysphagia severity in post-stroke patients, as well as a relation between advanced age and greater severity of dysphagia.

**Key words:** Voice, Deglutition Disorders, Stroke, Neurology, Intensive Care Units.

#### 6587. Association between premature leakage and pharyngeal stasis with acoustic signal before and after of swallowing

Mariana Pinheiro Brendim, Flavia Rodrigues Ferreira, Carla Rocha Muniz, Thalyta Georgia Vieira Borges, Elizabeth Silaid Muxfeldt  
Universidade Federal do Rio de Janeiro

**Introduction:** The hypothesis of this study was that the computerized acoustic analysis of swallowing could identify acoustic signal immediately before swallowing in case of premature leakage, and acoustic signal immediately after swallowing in case of pharyngeal stasis.

**Objectives:** to determine the association between (I) premature leakage with acoustic signal before swallowing sound and (II) pharyngeal stasis with acoustic signal after swallowing sound in resistant hypertensives with obstructive sleep apnea.

**Methods:** A cross-sectional study in which 20 patients with resistant hypertension and obstructive sleep apnea were submitted to computerized acoustic evaluation of swallowing sounds simultaneously with the videoendoscopic evaluation. Two swallows of 5 ml, 10 ml and 15 ml of the liquid, nectar, honey and pudding consistencies were evaluated. Both videoendoscopy and acoustic analysis of swallowing were blindly evaluated. Subjects were divided into groups according to the presence or absence of premature leakage and pharyngeal stasis. The presence or absence of acoustic signal before and after the swallowing sound was analyzed. The chi-square test and Fisher's exact test were used.

**Results:** There was an association between premature leakage with acoustic signal before swallowing sound for all aliquots of volume and consistency evaluated ( $p < 0.05$ ), except for

the swallowing of 5 ml of liquid ( $p=0.083$ ). There was an association between pharyngeal stasis with acoustic signal after swallowing sound, regardless of volume and consistency ( $p<0.05$ ).

**Conclusion:** The acoustic signal immediately before and after the swallowing sound measured by computerized acoustic analysis of swallowing may aid in the identification of premature leakage and pharyngeal stasis.

#### 6589. Relationship between eating assessment tool-10 and clinical characteristics of resistant hypertensives with obstructive sleep apnea.

Mariana Pinheiro Brendim, Elizabeth Silaid Muxfeldt, Thalyta Georgia Vieira Borges, Carla Rocha Muniz, Flavia Rodrigues Ferreira  
Universidade Federal do Rio de Janeiro

**Introduction:** Obstructive sleep apnea is associated with resistant hypertension. Patients with obstructive sleep apnea may have oropharyngeal dysphagia. Eating Assessment Tool-10 (EAT-10) is a validated test in screening for oropharyngeal dysphagia.

**Objectives:** to describe the EAT-10 findings and to evaluate the relationship between EAT-10 and the clinical characteristics of resistant hypertensives with obstructive sleep apnea.

**Methods:** A cross-sectional study, in which patients with resistant hypertension and obstructive sleep apnea diagnosed by polysomnography were enrolled. The variables gender, age, smoking, body mass index, cervical circumference, CPAP therapy, apnea-hypopnea index, severity of apnea, symptoms or complaints of dysphagia, and EAT-10 score were analyzed. The Mann-Whitney U test, Kruskall-Wallis test, chi-square test and Spearman's correlation coefficient were used.

**Results:** 77 subjects (55 females) with an average age of  $58.2 \pm 6.5$  years, of which 29.9% had mild apnea, 32.5% moderate apnea and 37.7% severe apnea. The EAT-10 score ranged from 0 to 29, with a median of 2 (0-5.5). 53.2% of the patients had a score equal to or greater than 2, and 40.3% had a score equal to or greater than 3, indicating a risk of dysphagia. The EAT-10 score was related to smoking ( $p=0.044$ ), symptoms or complaints of dysphagia ( $p<0.000$ ), and severity of apnea ( $p=0.021$ ), but was not to gender ( $p=0.116$ ), CPAP therapy ( $p=0.189$ ), age ( $p=0.852$ ), cervical circumference ( $p=0.350$ ), and body mass index ( $p=0.971$ ).

**Conclusion:** The physical and functional domains of EAT-10 are affected in resistant hypertensives with obstructive sleep apnea. Severity of obstructive sleep apnea is associated with the risk of dysphagia.

#### 6590. Acoustic analysis of swallowing in resistant hypertensives with obstructive sleep apnea and dysphagia oropharyngeal

Mariana Pinheiro Brendim, Flavia Rodrigues Ferreira, Carla Rocha Muniz, Thalyta Georgia Vieira Borges, Elizabeth Silaid Muxfeldt  
Universidade Federal do Rio de Janeiro

**Introduction:** The acoustic analysis of swallowing sound has been investigated, since it is an objective, low cost, easy to apply, painless and noninvasive evaluation of swallowing.

**Objectives:** to analyze the acoustic signal of deglutition sound of patients with resistant hypertension and obstructive sleep apnea who present or not laryngeal penetration-aspiration.

**Methods:** 12 women and 8 men performed the acoustic analysis of swallowing sound using the sonar Doppler simultaneously to the fiberoptic endoscopic evaluation of swallowing. Participants were classified into two groups: with penetration-aspiration and without penetration-aspiration. The following variables were analyzed: initial frequency (IF), initial intensity (II), peak frequency (PF), peak intensity (PI), interval between initial time and peak time (IT-PT), interval between peak time and final time (PT-FT), and interval between initial time and final time (IT-FT). The Mann-Whitney U test was used for statistical analysis.

**Results:** FP and PI were lower in the penetration-aspiration group, with a significant difference in 15 ml of honey ( $p=0.008$ ). IF and II were higher in the penetration-aspiration group, with significant

difference for 5 ml of liquid ( $p=0.006$ ) and 10 ml of nectar ( $p=0.025$ ). IT-PT, PT-FT and IT-FT were higher in the penetration-aspiration group, with significant difference ( $p<0.05$ ) for 5 ml and 10 ml of liquid and 15 ml of pudding.

**Conclusion:** Acoustic analysis of swallowing seems to be a promising resource for the diagnosis of oropharyngeal dysphagia. There is a difference in all the acoustic parameters analyzed in this study presented by who present and who do not present penetration-aspiration.

#### 6591. Videoendoscopy of the deglutition: preliminar results of the otorhinolaryngology and speech, language and hearing sciences services of the HU - UFS.

Brenda Carla Lima Araujo, Camila Silva Oliveira da Mota, Fabiola Andrae Andrade dos Santos, Amanda Louize Félix Mendes, Ronaldo Carvalho Santos Júnior, Claudia Cristiane Alves da Costa  
Universidade Federal de Sergipe

**Introduction:** Deglutition videoendoscopy is an examination that allows detecting anatomical and or functional changes in structures of the swallowing mechanism, using an easy to perform and inexpensive technology.

**Objective:** To characterize the profile of patients from the deglutition videoendoscopy ambulatory clinic of the University Hospital of Sergipe (HU-UFS).

**Methods:** Descriptive, cross-sectional study included in a larger project. Speech, Language and Hearing Sciences and videoendoscopic evaluations were performed in patients with dysphagia complaints.

**Results:** Twenty-five patients were evaluated, 60% being female. Of the patients evaluated, 88% were fed orally and 12% via nasoenteral tube. Changes in tongue mobility were observed in 32%, lips and velopharyngeal closure alterations in 20%. The dysphagic manifestations of semiliquid consistency were stasis in the vallecula (56%), pyriform sinuses (44%), laryngeal penetration (28%), aspiration and cough (12%). The pasty consistency presented stasis in the vallecula (56%), pyriform sinuses (40%) and penetration (20%). For the liquid, there was stasis in the vallecula (32%), pyriform sinuses (28%), penetration (24%) and aspiration (12%). With the solid consistency, stasis in the vallecula (24%), pyriform sinuses (16%) and laryngeal penetration (12%). Of the patients evaluated, 32% were classified as normal swallowers, 16% presented mild dysphagia, 24% moderate, and 28% severe dysphagia.

**Conclusion:** The main findings of dysphagia were stasis in the vallecula and pyriform sinuses. These manifestations intensify the risk of laryngeal penetration and tracheal aspiration. Deglutition videoendoscopy was an important instrument in the diagnosis of oropharyngeal dysphagia and therapeutic guidance.

**Key words:** Diagnosis; Speech, Language and Hearing Sciences; Otorhinolaryngology; Deglutition disorders.

#### 6592. Probable association between vertigo complaint and neck pain in teachers

Alyne Santana Gonçalves, Luciana Lozza de Moraes Marchiori, Ana Carolina Marcotti Dias, Sabrina da Rocha das Virgens, Daiane Soares de Almeida Ciquinato, Lucas Alberto Furlan, Brenda Miyuki Santana  
Universidade Norte do Paraná

**Introduction:** Neck pain results from postural and mechanical causes. Neck pain may be etiological factor for vertigo.

**Objective:** The aim of this study was to compare the sensation of vertigo with neck pain in teachers.

**Methodology:** A cross-sectional study was approved by the Ethics Committee (number: 742.355), with a sample of 93 primary and high school teachers with a mean age of 47.81 years. Teachers were selected who participating in the Pró-mestre project. All participants answered the question about vertigo complaint and neck pain contained in the study protocols. For the statistical analysis, the Chi-square test was used to compare the groups. A 95% confidence interval and significance level of 5% ( $p <0.05$ ) were adopted in all analyzes.

**Results:** The vertigo complaint was observed in 34.3% of the teachers with neck pain and in 24.1% of the teachers without complaints of neck pain. There was no significant association between the sensation of vertigo and neck pain in these teachers. The results found were not statistically significant ( $p = 0.291$ ).

**Conclusion:** To conclude, this research will contribute from these results to show the need for longitudinal studies and clinical trials to confirm the association between neck pain and vertigo complaint.

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**Key words:** teachers, neck pain, vertigo.

#### 6594. Dichotic listening in children with Benign Epilepsy of Childhood with centro-temporal spikes

Maria Isabel Ramos do Amaral, Maria Francisca Colella dos Santos, Marilisa Mantovani Guerreiro, Mirela Boscaroli Lorenzi, Raquel Leme Casali  
UNICAMP

**Introduction:** Disorders involving perceptual processing of auditory information by the central auditory nervous system may present itself isolated or co-morbid with developmental disorders and/or neurological conditions, such as benign epilepsy of childhood with centro-temporal spikes (BECTS), also known as Rolandic Epilepsy. Aim: analyze the mechanism of binaural integration through dichotic listening tasks in school-age children with BECTS. Study design: comparative cross-sectional prospective study.

**Methods:** Patient Group (G1) consisted of 13 children diagnosed with BECTS and Control group (G2) consisted of 17 healthy children. After neurological and peripheral audiological assessment, children underwent a behavioral auditory evaluation and the procedures applied were: Dichotic Digits test (DD) and Dichotic Consonant-Vowel Test (DCV). Right and left ears scores were considered and results were compared between groups.

**Results:** G1 showed worst performance on dichotic listening on right ear (96.6% +4.0;  $p=0.026$ ) and left ear (94.8% +5.4;  $p=0.025$ ), when compared to G2. In the CV test, there was no difference between G1 and G2 on the performance of DCV ( $p> 0.005$ ), only in the comparison between ears, considering each group separately.

**Conclusion:** Children with BECTS may have difficulties in the processes involved in dichotic listening. Such abilities have important implications for speech recognition, especially in unfavorable environments such as background noise or competitive speech, and may be an aggravating factor in reading and writing difficulties reported in the literature in this pediatric population.

#### 6595. Auditory dysfunction induced by pesticides in agricultural workers

Diolen Conceição Barros Lobato, Adriana Bender Moreira de Lacerda  
Universidade Tuiuti do Paraná

**Introduction:** The farmer unaware of the risks from their working environments to their health and their family's health.

**Objective:** This study aimed to characterize the auditory dysfunction induced by pesticides.

**Methods:** A cross-sectional study, divided into two stages. Step 1 included: questionnaire, otoscopy, pure-tone audiometry, acoustic impedance, high-frequency audiometry, in addition to a biological evaluation. The initial research group was formed by 70 agricultural workers, while the control group consisted of 71 participants of both genders, with no exposure to noise and chemicals. Step 2 included: TEOAE, DPOAE and the suppression effect of TOAEs for the 24 participants from the research group with audiometric thresholds  $\leq 40$  dB HL according to the tri-tone average (500, 1000 and 2000 Hz) or at a specific frequency (3, 4, 6 and 8 kHz). The results show significant differences between the groups ( $p < 0.05$ ) for pure tone audiometry, high-frequency audiometry, acoustic reflex and TOAE, with worse results observed in the research group. The frequencies most affected in pure tone audiometry were high frequencies (from 3 to 6 kHz) and in high-frequency audiometry (from 9 to 11.2 kHz). Exposure to pesticides is associated with absence of acoustic reflex, reduced OAE signal/noise ratio and dysfunction of the olivocochlear

efferent auditory system. There is a positive correlation between the audiological findings and the biological evaluation.

**Conclusion:** It is concluded that exposure to pesticides can cause hearing disorders, both central and peripheral.

**Key words:** hearing impairment, agrotoxins, occupational health, hearing.

#### 6597. Vocal self-assessment of theater students after using the lax vox latex tube

Geovana Ramazzini Vechi, Ana Carolina Constantini  
UNICAMP

**Introduction:** Voice is essential to the professional development of theater actors and the use of warm up vocal techniques, as Lax Vox, can produce positive effects in the prevention of vocal problems and in the rehabilitation process.

**Objective:** To analyze the immediate effect of the Lax Vox technique on students of performing arts, as well as to compare the participants' vocal self-assessment data.

**Methodology:** 39 performing arts students (19 men, 20 women) were invited and divided into two groups: group with vocal complaint (GC) and group without vocal complaint (GWC). They have answered the Voice Symptom Scale (VOISS) and then have undergone the Lax Vox exercise. Before and after the exercise the participants rated the self-perception of their voices using a 5-point Likert Scale.

**Results:** The results have shown that 79.4% of the individuals have noticed a positive effect after the vocal technique. The analysis of the VOISS scores revealed that in the GWC (16 individuals), 11 of them have a score compatible with dysphonic individuals and five of them are vocally healthy, while in the GC (23 individuals), 18 have a compatible score with vocal symptoms existing in dysphonic individuals and five ones are vocally healthy. Self-perception has showed that participants from both groups experienced improvement on their voices.

**Conclusion:** The effect of the Lax Vox vocal was positive, since it was noticed an improvement in the subject's voice self-perceptions, even of those ones who haven't reported any voice complain.

**Key words:** voice, actors, Lax Vox.

#### 6598. Patients implanted in the pre-lingual phase: bibliographic review

Fernanda Prates Cordeiro, Luciana Lozza de Moraes Marchiori  
Universidade Norte do Paraná- Unopar Suporte: Cnpq e Funadesp

**Introduction:** In the case of children with pre-lingual hearing impairment, ie, hearing loss before language acquisition, the cochlear implant represents a powerful tool, since it directly stimulates the auditory nerve, promoting optimal results in the communicative skills and in the construction of oral communication. The therapeutic goals of the (re) habilitation of oral language are the identified, selected and established targets, which are to be achieved with the implanted child, aiming at the development and improvement of oral language.

**Objective:** To carry out a literature review on the works that deal with the (re) habilitation of oral language in patients implanted in the pre-lingual phase.

**Data Synthesis:** In order to verify the set of publications on the subject, a systematic search was carried out in the literature from August 2016 to November 2016, in books and electronic databases MEDLINE, LILACS, SciELO, IBECS, The Cochrane Library, Embase and PubMed. A limited number of publications related to the topic (28 articles) were observed.

**Conclusion:** It was concluded that the number of publications on the (re) habilitation of oral language in the pre-lingual phase in the Speech-Language Pathology area is restricted. It is considered that in addition to new studies on the results of the Auricular Method and Vocal Therapy in the implanted patient, other revision work should assume the analysis of categories as methodological aspects, strategies of performance and results obtained in the therapeutic processes.

### **6599. Auditory deprivation and early otitis media with effusion: systematic review**

Márcia Salgado Machado, Adriane Ribeiro Teixeira, Sady Selaimen da Costa  
Universidade Federal do Rio Grande do Sul

**Introduction:** In the past 40 years, the literature has attempted to clarify the evidence on the effect of early auditory deprivation caused by early otitis media with effusion on central auditory processing.

**Objective:** The aim of this study was to evaluate the scientific evidence on the effects of auditory deprivation caused by early otitis media with effusion on the central auditory processing of children and adolescents.

**Methods:** A systematic search was conducted in the following databases: Scientific Electronic Library Online, Latin American and Caribbean Health Sciences, PubMed, Scopus, and Web of Science, PubMed, Medline, and Cochrane databases from the earliest publication, up until October 2016. We sourced for prospective studies that reported children or adolescents (aged less than 18 years) with early otitis media with effusion in the first years of life.

**Results:** We found 4,817 studies using the adopted research strategy. Of these, eight were selected according to established criteria. For central auditory processing abilities that are considered susceptible to early otitis media with effusion, it is possible to infer that the auditory figure-ground ability is considered susceptible because the changes were consistently observed in different studies with a high level of scientific evidence.

**Conclusions:** The results indicated a correlation between auditory deprivation caused by early otitis media with effusion and changes in central auditory processing in children and adolescents. The hearing ability that was consistently susceptible to auditory deprivation was the auditory figure-ground.

**Key words:** otitis media with effusion, auditory perception, children.

### **6602. Attention, memory and executive function in adolescents with non-cholesteatomatous chronic otitis media and central hearing processing disorder**

Márcia Salgado Machado, Sady Selaimen da Costa, Adriane Ribeiro Teixeira  
Universidade Federal do Rio Grande do Sul

**Introduction:** Auditory deprivation associated with otitis media with early effusion has been considered as a risk factor for central auditory processing, as well as for the development of some cognitive functions. However, no similar studies were found in subjects with chronic otitis media.

**Objective:** To study the neuropsychological functions of attention, work memory and executive function in adolescents with and without chronic non-cholesteatomatous otitis media, as well as to analyze their interrelationships with the behavioral evaluation of central auditory processing.

**Methods:** 68 adolescents were recruited, 34 of whom had chronic non-cholesteatomatous otitis media (study group) and 34 had no otological past (control group). Attention subtests, working memory and executive functions (phonemic verbal fluency) of the Neupsilin Brief Neuropsychological Assessment Instrument were used. The central auditory processing was evaluated by: Masking Level Difference, Synthetic Sentence Identification, Random Gap Detection Test, Pattern of Duration Test and Digit Dichotic Test.

**Results:** The Neupsilin results showed lower scores in the study group when compared to the control group in the following tests: digit sequence repetition, digit ascending ordering, sentence span of sentences and phonemic verbal fluency. We found an association between the central auditory processing tests and the sub tests used by Neupsilin.

**Conclusions:** The effects of chronic non-cholesteatomatous otitis media on attention, memory and executive functions related to central auditory processing disorder in adolescents seem to be enhanced by the severity of the disease.

**Key words:** attention, memory, cognition, otitis media.

### **6604. Amyotrophic lateral sclerosis: case report**

Vânia Carolina Devitte Ruiz, Tiago Roberto Gomes Rosa  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Amyotrophic lateral sclerosis (ALS) is a degenerative disease that ends up incapacitating the activities of daily living and requiring a multidisciplinary approach.

**Objectives:** To describe the importance of the Speech-Language Pathology approach in the treatment of patients with ALS.

**Case report:** A 69-year-old male patient had frequent episodes of choking, difficulty in swallowing saliva, food intake, loss of strength in the right upper limb, bilateral tremor in the hands, weight loss, 20 kg in 12 months, and dysphonia. Light. The symptoms have worsened in recent months and the patient was admitted to the emergency room with respiratory insufficiency, was intubated and put on mechanical ventilation. Examined by the neurology team, who performed tracheostomy, he established treatment and referred the Speech Therapy team to assess the need for percutaneous gastrostomy (PEG).

**Results:** Speech-language pathology diagnosis of mild oropharyngeal dysphagia and need for PEG in the discussion between teams. After the speech therapy, it evolves to liberate a pasty diet and follows a multidisciplinary follow-up with the aim of softening the symptoms.

**Conclusion:** Disabling and rapidly evolving disease requiring multidisciplinary follow-up in order to provide the best possible quality of life for the patient.

### **6607. Deletion of medial and final fricative coda by children with atypical language acquisition**

Iasmim Kasprczak, Amanda Lucas, Allessandra Fraga da Ré, Letícia Pacheco Ribas, Kariny Zencke da Silva, Laura dos Santos Abon Zahr  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** The process of language acquisition is quite complex. For this reason, it can sometimes develop atypical. During language development phonological processes occur as part of the maturation of the children's linguistic system. When such processes persist beyond the acquisition phase, it is considered that atypical are occurring in the system. In this paper, we analyze the phonological process called coda erasure, more specifically in relation to the fricative coda.

**Objective:** Analyze the use of deletion in medial and final fricative coda by children of both sexes in acquisition of atypical language.

**Methods:** Data from 40 children aged 5 to 8 years, 20 boys and 20 girls, 5 from each age group, from the VALDEF database (CEP 995344).

**Results:** The results indicate that 20.8% of the analyzed subjects performed the phonological process of the fricative coda deletion. Of these, there was a higher occurrence in subjects of the 6-year age group, male, with moderate and moderate-severe degrees of severity, in the medial position of the word.

**Conclusion:** The results found help in speech-language practice, because starting from them it is possible to make a more adequate choice of words to be worked on in therapy. However, there is a need for more data search with targets that contain the fricative in this syllabic structure to establish standards for the process of fricative coda deletion, since very little was found during the elaboration of this work.

**Key words:** Language Development; Speech Sound Disorder; Speech, Language and Hearing Sciences.

### **6612. Relation between the RGDT performance and The acquisition of /r/ in complex initial onset**

Amanda Lucas, Kariny Zencke da Silva, Karoline Terezinha Quaresma, Letícia Pacheco Ribas, Laura Fabiana Burkhard, Renata Pereira Prates, Amanda Faleiro  
UFCSPA

**Introduction:** The Random Gap Detection Test (RGDT) evaluates temporal resolution, that is the auditory ability to perceive

segments of sounds that are spatially close as separate events. A change in this ability can lead to problems in the identification of some phonemes, reflecting negatively the language's acquisition.

**Objective:** To verify if there is a relation between the RGDT's results and the /r/ acquisition in Complex Initial Onset (CIO).

**Methods:** The RGDT's results were analyzed, being compared with the /r/ productions in CIO of 51 monolingual Portuguese-speaking children, with Phonological Disorder, aged between 5 to 10 years, whose results are derived by VALDEF database (CEP 995.344). The RGDT's results were classify as normal or altered. The /r/ acquisition level was consider as acquired above 75% of correct outputs, in acquisition process of 50% to 74% and as nonacquired below 49%.

**Results:** 45 of the 51 subjects presented normal RGDT's results, of these, 32 had not acquired the /r/ in CIO, 03 were acquiring and 10 had already acquired. The 06 subjects who presented altered RGDT's results none had acquired or were acquiring the /r/ in CIO.

**Conclusion:** Results indicates that the altered RGDT's result may generate a negative impact in the /r/ acquisition in CIO. Larger and more in-depth studies are required to verify if there is a relation between the /r/ acquisition in CIO and the RGDT's result.

**Key words:** Speech Sound Disorder, Child Language e Speech, Language and Hearing Sciences.

#### 6614. Phonological Disorder: is there any relation between the speech intelligibility of the child and the parents' schooling?

Iasmim Kasprczak, Renata Pereira Prates, Bruna Santos Sant'Anna, Letícia Pacheco Ribas, Karoline Terezinha Quaresma, Kariny Zencke da Silva, Laura dos Santos Abon Zahr

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Language is a human capacity that aims at communication. It is known that their development depends not only on intrinsic but also extrinsic factors, such as family influence.

**Objective:** Analyze the relationship between the degree of speech severity and the level of schooling of the parents of 28 children with a diagnosis of Phonological Disorder, whose phonoaudiological evaluations, from the VALDEF database (CEP 995344).

**Methods:** Were analyzed the degree of severity, through the Percentage of Consonants Correct - Revised, and there was the educational level of parents, whose information was collected through anamnesis. Afterwards, the statistical analysis was performed in order to analyze the significance.

**Results:** The results indicate a relationship between the subjects with medium degree of severity, of the female gender, with the level of schooling maximum elementary education, both paternal and maternal.

**Conclusion:** The results obtained may indicate the influence of parents' schooling on the development of children's language, showing that the shorter study time suggests a greater chance of changes in the children's language development, according to the literature. However, further research is needed on such a relationship, since there may be other influencing factors.

**Key words:** Child Language; Educational Status; Speech Intelligibility; Speech, Language and Hearing Sciences.

#### 6617. Postural balance in middle-aged and elderly patients with and without Benign Paroxysmal Positional Vertigo

Fernanda Prates Cordeiro, Luciana Lozza de Moraes Marchiori

Universidade Norte do Paraná (Unopar) Suporte Funadesp e Cnpq

**Introduction:** Age increase is directly proportional to the presence of multiple otoneurological associated symptoms, such as vertigo and other dizziness, hearing loss, tinnitus, changes in body balance, gait disturbances and occasional falls. Vestibular disorders caused by disorders of the vestibular system, labyrinth, and vestibular nerve may be termed peripheral vestibulopathies or labyrinthopathies and represent the majority of cases of altered balance.

**Methods:** The sample consisted of 20 patients diagnosed with BPPV with mean age = 53.35 years, selected by the method of Non-probabilistic sampling and for convenience and 20 patients

without BPPV with mean age 60.95 years 13 women (65%) and 7 men (35%). The evaluation of the postural balance was performed in Force Platform, in the bipodal (P1) and semi-tandem (P2) positions, with the eyes open. The equilibrium parameters analyzed were: COP area ellipse (95%) in square centimeters (A-COP in cm<sup>2</sup>), mean velocity in centimeters per second (VM in cm / s) and mean frequency in Hertz (FM in Hz) of In both directions of movement: anteroposterior (A / P) and mediolateral (M / L).

**Results:** In the comparative analysis of the stabilometric parameters for the groups with and without BPPV in open-set positions P1 and P2, a significant association was found.

**Conclusion:** This study demonstrated the importance of assessing postural balance in individuals with BPPV. The data found in the present study are in agreement with other studies that demonstrate that there may be changes in parameters of postural balance in individuals with BPPV.

#### 6619. Investigation of microvillosity inclusion disease and multidisciplinary follow-up for 268 days: case report in infant hospitalized in sus.

Vânia Carolina Devitte Ruiz, Tiago Roberto Gomes Rosa

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** The inclusion of microvilli diseases (DIM) or intractable diarrhea is characterized by the presence of abundant and persistent aqueous diarrhea, even in food pauses. It is considered rare, of autosomal recessive hereditary transmission and of early onset when it manifests in neonatal period. There is currently no established cure for disease, which makes these children totally dependent on total parenteral nutrition.

**Objective:** To report the case of a newborn male hospitalized at 4 months of age for suspicion of microvilli inclusion disease.

**Case report:** Male infant, born at term and gestation without complications. Hospitalized in July 2016 at 4 months of age, currently 13 months of age and underweight. In multidisciplinary follow-up what has been paramount for the infant and the parents. Note the importance of restarting the oral stimulus and the speech-language pathology team is called for evaluation. The team after evaluation began to perform sensory and swallowing stimulation which has been improving the orofacial functions besides allowing the patient to have pleasure sensations through gustative stimuli.

**Conclusions:** Although rare, DIM should be considered in the differential diagnosis of chronic intractable diarrhea Of the infants. The case described illustrates the difficulties both at diagnosis and at the level of therapy and makes it clear that a multidisciplinary team working widely together is capable of generating evolutions and conditions that allow the patient diagnosed with SID to have an acceptable quality of life.

#### 6628. Validation of collective observation test: oral-motricity and breathing

Maria Aparecida Freitas Silva, Marcia Simões Zenari, Mariangela Lopes Bitar

Faculdade de Medicina da Universidade de São Paulo

**Introduction:** In the kindergarten educational context, Speech Therapy is capable of promoting health for language, hearing, eating functions, breathing and voice. This promotion demands effective, simple and low cost instruments.

**Objective:** Evaluate the effectiveness of a collective observational instrument in the areas of oral-motricity and breathing.

**Method:** Over more than two years, the sample of children with ages from 3 to 6 (N=89) was observed by speech therapists who used the created instrument, with development in these areas classified as adequate or not. Statistical tests were used to compare results from collective observational test and individual Golden Standard speech therapy evaluation test.

**Results:** There was consonance between both evaluation methods to detect oral-motricity normality, which reveals specificity on the instrument created in this research. On the other hand, not all of the detected failures from the formal evaluation test were also detected

by the created observational instrument, which seems to reveal low specificity on some criterias. Considering age range, chewing pattern's outcomes showed a high sensitivity; in more than two institutions. The breathing's outcomes indicated suitable consonance between both instruments, showing high specificity and accuracy.

**Conclusion:** The observational instrument identified higher incidence of children with normal development. For oral-motricity, this test showed high reliability to identify normal development and low reliability to detect deviants, except for chewing patterns. For breathing patterns, the created instrument was accurate and reliable. As the collective context needs to identify normality range in a evaluated group, both instruments were considered effective.

**Key words:** validation studies; stomatognathic system; respiration.

#### 6629. Influence of Linguistic and Extra linguistic Variables on the Devoicing Phonological Process

Karoline Terezinha Quaresma, Kariny Zencke da Silva, Allessandra Fraga da Ré, Letícia Pacheco Ribas, Laura Fabiana Burkhard, Iasmim Kasprczak  
UFCSPA

**Introduction:** The typical and atypical phonological system's acquisition, is marked by the occurrence of phonological processes, which are systematic changes, of distinctive traits, that affect a sequence of sounds with the aim of simplifying it. The phonological process of devoicing is due to the non-distinction of the voiced constraint.

**Objective:** To investigate the relation of devoicing's occurrence in voiced obstruents according to extra linguistic and linguistic variables.

**Methods:** The voiced obstruents' productions of 130 Brazilian Portuguese speaking children, with Phonological Disorder, aged between 4 to 10 years, whose results are derived by VALDEF database (CEP 995.344) were statically analyzed in the Computer Package VARBRUL. The analysis observed the relation established by extra linguistic variables (age, sex, schooling) and linguistic variables (voiced obstruents, antecedent context to the voiced obstruents, next context, tonicity, position in the word, number of word syllables, lexical type, degree of speech severity) with devoicing's occurrence.

**Results:** The variables that presented significance for devoicing's occurrence were the obstruents / g / and / É /, severity of Moderate and Moderate-Severe speech intelligibility, 8 to 9 years of age and female gender.

**Conclusion:** Results indicated existence of linguistic and extra linguistic variables favoring the devoicing process. The linguistic variables that presented significance for devoicing's occurrence are related to the acquisition complexity degree of the devoicing phonemes and speech intelligibility. Regarding extra linguistic variables, girls and older children were the ones that presented highest index of devoicing.

**Key words:** language; Language development disorders; Speech sound disorders.

#### 6631. Importance of predictive diagnosis in the cases of decept of genetic origin

Antonio Jose Assis Xavier de Souza Pinto, Francisco Sales de Almeida, Nadimila de Fátima Oliveira, Eduardo Poletti Camara, Leonardo Luca Luciano, Ana Laura Silva Oliveira, Érica Pinoti Esteves  
Universidade José do Rosário Velano - Unifenas- Alfenas

**Introduction:** Hearing impairment is a disorder that presents a high prevalence: it affects about 5% of school children and 10% of the adult population. If profound, hearing impairment affects the most diverse aspects of the lives of its carriers, including educational preferences, communication strategies, family and social relationships, and professional opportunities.

**Objectives:** To evaluate the presence of a family group with genetic deafness and to compare what has been described in the literature. The participants of this study belong to 11 families with an average of 4.7 people.

**Data Synthesis:** From the medical point of view, deafness is a pathological condition. This statement, which seems so obvious in the context of medicine, is not so for many deaf people who consider themselves to be a separate cultural group, who have different values, beliefs and behavior patterns based on their own deafness and who do not consider themselves to be disabled. But only different; Deafness as a culture is a natural consequence of grouping deaf children into special schools and using a common manual language, the language of signs. Conclusion: The mapping and molecular characterization of the genes causing deafness, and the identification of their corresponding products and functions, will make an extraordinary contribution to understanding the pathogenesis of deafness.

**Key words:** Hearing, communication, deafness.

#### 6644. Musical Perception in Cochlear Implant Users

Sílvia Regina Siqueira de Araújo, Carolina de Campos Salvato, Brasilia Maria Chiari, Alexandra Dezani Soares, Sheila de Souza Vieira  
Universidade Federal de São Paulo

**Purpose:** Evaluate the musical perception in adult users of Cochlear implant utilizing the Munich Music Questionnaire.

**Method:** Cross-sectional research with a qualitative approach. It was applied the Munich Music Questionnaire for data collection.

**Results:** It was possible to observe that there was an improvement of 31.81% in the frequency of music heard after CI. The answer from 95.45% of participants was they did not connect the music directly to its gadget. The most part of patients, 77.27%, said they listen to music for pleasure and 54.55% for relaxing. Related to the elements of music, 81.82% answered that listen rhythm and 59.1% listen melody. Piano was the instrument with the highest detection frequency (77.72%), followed by drums (68.18%). The music genres considered as great satisfaction were "dancing music" (36.37%) and "gospel" (36.37%). Considering 10 patients who used to play instruments before HL, 4 of them played again after the implantation. In addition, 3 of them which did not used to play, began to play after the CI.

**Conclusion:** It was possible to observe that the use of CI promoted an improvement in the musical perception of the users and gave them a better quality of life. Therefore, rehabilitation should include the development of musical skills into the auditory training therapy.

**Key words:** Cochlear Implantation. Music. Adult. Quality of life.

#### 6648. Correlation between hearing loss degree, benefits and satisfaction provided by hearing aids

Camila Zander Neves, Adriane Ribeiro Teixeira, Taís de Azevedo Picinini, Liese Loureiro Weigert  
Universidade Federal do Rio Grande do Sul; Hospital de Clínicas de Porto Alegre

**Introduction:** Hearing aids (HAs) amplify and improve the perception of sounds for the patients with hearing loss.

**Objective:** To correlate the HAs benefits and satisfaction with the hearing loss degree.

**Method:** The cross-sectional and observational study has been approved by the Ethics Committee (protocol 1.760.868). Adults and elderly of both genders, users of HAs were selected. All patients involved have answered the International Outcome Inventory for Hearing Aids (IOI-HA) questionnaire, which evaluates the benefits and satisfaction of HAs. A high score is indicative of a positive assessment of the performance of HAs. The total score of the factors 1 and 2 were considered for the answer analysis. The type and grade of loss were described according to the WHO classification.

**Results:** Forty-two patients, mostly elderly (64.3%) were evaluated. Sensorineural hearing loss was most prevalent in both ears (65.9%). Moderate and severe degrees predominated in the right ear (35.7%), and moderate degree, in the left ear (35.7%). The factor 1 average score was  $17.6 \pm 2.0$  points and factor 2,  $12.7 \pm 2.2$  points. The total IOI-HA score was  $32.0 \pm 3.6$  points. There was no difference between both groups. The hearing loss degree of the right and left ears did not present significant correlation between the values of total

IOI-HA ( $r_s=-0.046$ ;  $p=0.774$ ) ( $r_s=0.029$ ;  $p=0.854$ ) and factors 1 ( $r_s=0.046$ ;  $p=0.773$ ) ( $r_s=0.158$ ;  $p=0.318$ ) and 2 ( $r_s=-0.110$ ;  $p=0.487$ ) ( $r_s=-0.023$ ;  $p=0.887$ ), respectively.

**Conclusion:** Hearing loss degree did not correlate with the satisfaction index related to the use of HAS.

**Key words:** Auditory perception; Hearing loss; Hearing aids;

#### 6649. Mismatch negativity auditory evoked potential in children with normal hearing thresholds

Dulce Azevedo Ferreira, Claudine Devicari Bueno, Sady Selaimen da Costa, Pricila Sleifer

Universidade Federal do Rio Grande do Sul

**Introduction:** The potential Mismatch Negativity is a procedure used to evaluate the ability of auditory discrimination.

**Objectives:** To verify the values of latencies and amplitudes of Mismatch Negativity in children with normal hearing thresholds within the normality patterns and without auditory complaints.

**Methods:** Children between 5 and 11 years old without auditory complaints have participated in this research. All the participants have done peripheral audiological evaluation previously to electrophysiological evaluation. To perform the MMN, it was used Masbe ATC Plus equipment from Contronic brand. The electrodes were fixed in Fpz (active electrode), M1/M2 (reference electrodes) and front (earth electrode) positions. The intensity used to evoke the potential was 80 dBHL, the frequent stimulus used was 1.000 Hz and the rare stimulus was 2.000 Hz.

**Results:** 42 children were evaluated with mean age of eight years. Regarding the mean latency and amplitude, the right ear presented values of 182,7 ms and 5,14  $\mu$ V and the left ear 181,5 ms 5,56  $\mu$ V, respectively. There was no significant statistically difference for the values of latency and amplitude among ears ( $p=0,581$  e  $p=0,125$ ). In the comparison between the genders, no significant statistically differences were found for latency  $p=0,183$  and amplitude  $p=0,243$  (right ear) and latency  $p=0,114$  and amplitude  $p=0,298$  (left ear).

**Conclusion:** With this study it is possible to establish the values of Mismatch Negativity responses in children. The values found of MMN potential are similar to those observed in the scientific literature examined.

**Key words:** Auditory Evoked Potentials, Electrophysiology, Child.

#### 6650. Promotion of health in cancer: hearing loss and alopecia as treatment side effects

Tâmara Figueirêdo do Carmo Santos, Priscila Feliciano de Oliveira, Cris Magna dos Santos Oliveira, Tatiane Costa Carneiro, Vanessa Menezes de Jesus, Nuala Catalina Santos Habib, Grasiella Pereira Ferreira  
Universidade Federal de Sergipe - UFS

**Introduction:** Cancer treatment can cause side effects, which can impair the quality of life in physical, social and emotional aspects. Among the deleterious effects are alopecia and hearing loss. Therefore, audiologists as part of multiprofessional team acts to promote hearing health and to help patients with alopecia to improve their self-esteem. **OBJETIVOS:** To provide information regarding hearing loss due to cancer treatment and to improve the self-esteem of patients with alopecia.

**Method:** A headscarves workshop carried out an Oncology ward in a public hospital from northeastern of Brazil was designed by audiologists supported by a social group "For More headscarves in the Streets". The extension act taught the patients, individually, to perform several types of moorings of headscarves and it lasted four hours. Most patients who were in the waiting room and in bed participated. Furthermore, it was offered booklets with hearing loss information due to cancer treatment and the patients were invited to enhance auditory evaluation.

**Results:** 54 cancer treatment women learned how to use headscarf and declared better self-esteem wearing it. It was noticed that they smiled when they looked to themselves in the mirror. They had stated: "I will not be ashamed in the street; the scarf makes me more

beautiful". Parallel to this, 50 patients decided to enhance auditory evaluation once they didn't know that the cancer treatment can cause hearing loss.

**Conclusion:** Headscarves workshop improved patient's self-esteem and aroused the interest in hearing monitoring as a form of an early diagnosis.

#### 6655. Evaluation of the central and peripheral hearing system in children with Williams syndrome: Preliminary results

Rayane Brum de Fraga, Paulo Ricardo Gazzola Zen, Rafael Fabiano Machado Rosa, Pricila Sleifer

UFCSPA

**Introduction:** Williams syndrome is a rare genetic neurodevelopmental disorder characterized by cognitive deficits, cardiac abnormalities, central nervous system disorders, in addition to damages related to language and hearing.

**Objectives:** To describe the results obtained through peripheral and central auditory evaluation on patients with Williams Syndrome.

**Methods:** Cross-sectional, observational study, approved by the ethics and research committee of the university. It was included in the sample children with Williams Syndrome, referred from the clinical genetics outpatient clinic of a university hospital. They were submitted to anamnesis, tonal and vocal audiometry, acoustic immittance measurements and evaluation of long-latency auditory evoked potential were performed.

**Results:** Four children were evaluated, two males and two females, with a mean age of 10 years. It was detected peripheral hearing loss on all four children of the sample. Two children showed moderate degree sensorineural hearing losses, and two showed moderate degree mixed type hearing losses. The children that showed mixed type losses, showed type B curves, ipsilateral and contralateral acoustic reflexes absent on both ears. The children with sensorineural losses showed type A curves, ipsilateral and contralateral acoustic reflexes partially absent on both ears. All of them showed alterations on the long latency auditory evoked potential.

**Conclusion:** In the sample studied, hearing losses was found in all individuals. In addition, all presented alterations in the central auditory, demonstrating the importance of the test in the clinical routine of the study population.

**Key words:** Evoked Potentials; Auditory; Electrophysiology; Williams Syndrome.

#### 6659. Comparison of vertigo with the level of physical activity in teachers

Bianca Cristine Carvalho Souza, Luciana Lozza de Moraes Marchiori, Marcelo Yugi Doi, Arthur Mesas, Daiane Soares de Almeida Ciquinato, Francielly Cândida da Silva, Lucas Alberto Furlan  
UNOPAR - Universidade Norte do Paraná

**Introduction:** Lack of physical activity can cause metabolic and circulatory changes. These changes can cause vertigo. These data show the importance of physical activity verification in the study of patients with vertigo.

**Objectives:** The objective of this study was to compare the vertigo complaint with the practice of physical activity in teachers.

**Methods:** A cross-sectional study was approved by the Ethics Committee (number: 742.355), with a sample of 62 primary and high school teachers with a mean age of 48 years. Teachers were selected who participating in the Pró-mestre project. All participants were submitted to physical activity level verification by the International Physical Activity Questionnaire - short version and answered the question about vertigo complaint contained in the study protocols. The chi-square test was used to compare the groups. A 95% confidence interval and significance level of 5% ( $p <0.05$ ) were adopted in all analyzes.

**Results:** The prevalence of vertigo was 26.7% among teachers classified as sufficiently active and 34.4% among those who were insufficiently active. No statistically significant result was found ( $p=0.511$ ).

**Conclusion:** There was no significant association between the complaint of vertigo and the level of physical activity in teachers but additional studies are needed with larger populations and other projects to verify whether early intervention in physical activity can influence the extent to which vertigo is experienced as troubling, and therefore quality of life problems associated with it.

**Key words:** Teachers, Motor Activity, Vertigo.

**Support:** Funadesp.

#### 6660. Comparison of the level of physical activity with sensation of aural fullness in teachers of the state school system

Isabela Caroline Gonçalves, Marina Stephany Bobroff Mendes, Cintia Ramalho Alves, Lucas Alberto Furlan, Daiane Soares de Almeida Ciquinato, Paula Carolina Dias Gibrin, Luciana Lozza de Moraes Marchiori

Unopar - Universidade Norte do Paraná

**Introduction:** Lack of physical activity can cause changes in the body that can cause circulatory and metabolic changes responsible for aural fullness. These data demonstrate the importance of physical activity verification in the study of patients with aural fullness sensation.

**Objectives:** The objective of this study was to compare the sensation of aural fullness with the level of physical activity in teachers of the state network.

**Methods:** A cross-sectional study was approved by the Ethics Committee (number: 742.355), with a sample of 62 teachers with a mean age of 48 years. We selected high school teachers from the city of Londrina, participants in the Pró-mestre project. All participants underwent physical activity level verification by the International Physical Activity Questionnaire - short version, which answered questions about the sensation of aural fullness contained in the standard audiology anamnesis used in the Clinic-school attendance. For the statistical analyzes, the Chi-square test was used to compare the groups. A 95% confidence interval and significance level of 5% ( $p < 0.05$ ) were adopted in all analyses.

**Results:** There was no significant association between the sensation of aural fullness and the practice of physical activity in teachers of the state network. The result found was not statistically significant ( $p = 0.891$ ).

**Conclusion:** In this study, it can be concluded that the practice of physical activity is not associated with the sensation of aural fullness. We suggest studies with larger populations to prove this data.

**Key words:** Teachers, Motor Activity, Sleep, Aural Fullness.

**Support:** Funadesp.

#### 6664. Surface Electromyography and Deglutition: a systematic review

Maria Cristina de Almeida Freitas Cardoso, Eveline de Lima Nunes, Liliane Menzen

Universidade Federal de Ciências da Saúde de Porto Alegre - UFCSPA

**Introduction:** Swallowing is a coordinated and complex function whose goal is to bring food/saliva from the oral cavity to the stomach. Surface electromyography has been used in the speech-language therapy clinic, helping to record the muscular activity related to swallowing. It can serve as a basis for comparing the physiological and pathological conditions of the musculature and confirm the activation of certain muscle groups in the execution of specific functions.

**Objectives:** Systematic review of studies using surface electromyography as aim in the evaluation of healthy adult swallowing.

**Data Synthesis:** The literature review was performed in the PubMed, LILACS and SciELO databases, with no restriction of language and location published between 2006 and December 2016. With the descriptors [electromyography/and deglutition/ and deglutition disorder/]. This systematic review was conducted according to the PRISMA statement and registered in PROSPERO with the number: CRD42016046701. In the present study, three articles were considered: the suprathyroid/infrathyroid muscles (66,6%), the masseter (16,7%) and the orbicularis muscles (16,7%). Regarding the

consistencies commonly used for electromyographic evaluation of adult swallowing, we can emphasize liquid, pasty, thickened liquid and solid. The amplitude and duration of the electromyographic signal can be modified according to the consistency.

**Conclusion:** It can be verified that there are few studies that use surface electromyography in the evaluation of swallowing of healthy adults. However, it is extremely important to standardize the electromyographic evaluation, to improve the speech-language therapy practices and to make comparison possible with patients with swallowing disorders.

**Key words:** Electromyography; Deglutition; Deglutition Disorder.

#### 6666. Hearing screening carried out on neonates that were submitted to antibiotic therapy

Débora Lüders, Angela Ribas, Eliete de Lara Constante, Juliana de Conto

Universidade Tuiuti do Paraná - UTP

**Introduction:** Indiscriminate and continuous use of antibiotics is an important risk factor for hearing loss. Performing neonatal hearing screening and auditory monitoring on neonates undergoing antibiotic therapy is an important tool for monitoring the hearing health of these subjects.

**Objectives:** To analyze the results found in neonatal hearing screening in neonates submitted to antibiotic therapy in a public maternity hospital in the city of Curitiba, Brazil.

**Methods:** A cross-sectional and quantitative approach was performed on the hearing screening results of 90 neonates who were born in 2014. They were submitted to antibiotic therapy taking into consideration gender and other risk factors for hearing loss.

**Results:** Out of the 2,376 neonates who underwent hearing screening in 2014, 90 (3.8%) used antibiotics in the neonatal period, 47 (52.2%) male neonates and 43 (48.8%) female neonates. Out of these neonates, 19 (21.1%) failed the first hearing screening test, and 13 (68.4%) presented failure in both ears. Out of the 19 babies who were referred for retest, only five (26.3%) passed and 42.1% did not attend the retest. 64 (71.1%) neonates presented other risk factors associated with the use of antibiotics. Intensive Care Unit stay occurred in 60 (66.6%) cases, followed by hyperbilirubinemia in 37 (41.1%).

**Conclusion:** Out of the 90 neonates submitted to antibiotic therapy, 19 (21.1%) failed the neonatal hearing screening. Therefore, the auditory monitoring of the babies exposed to this therapy is needed in order to assess possible side effects in the auditory system.

**Key words:** Hearing; Neonatal Screening; Risk Factors.

#### 6669. Anxiety and depression profile in an adult with auditory processing disorder after auditory training

Joyce Fialho Rodrigues, Sandra Nunes Alves Vicielli

UNIFESP- Escola Paulista de Medicina

**Introduction:** Anxiety and depression in adult with Central Auditory disorder in post- acoustically controlled auditory training.

**Objective:** To characterize the profile of anxiety and depression in an adult with Central Auditory Processing Disorder, after acoustically controlled auditory training.

**Resumed report:** Female patient, 30 years old. First step: assessment of central auditory processing; second step: acoustically controlled auditory training (lasting 12 sessions); third step: psychological assessments using the following instruments: Beck's Anxiety and Depression Scale consisting of Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI) and Personality Factorial Battery. In the re-assessment of the auditory processing, the patient presented adequate response in all auditory mechanisms. Beck's two scales presented an 11-point score for depression factor (mild degree) and a 9-point score for anxiety (minimum degree).

**Conclusion:** Despite the positive results in the Auditory processing after the training sessions, the patient still presented a mild to light profile of anxiety and depression.

**Key words:** Depression, Anxiety, Hearing Disorders.

### **6670. Correlation between level of schooling and social participation restriction in adults and elderly after hearing aids fitting**

Taís de Azevedo Picinini, Liese Loureiro Weigert, Adriane Ribeiro Teixeira, Camila Zander Neves  
*Hospital de Clínicas de Porto Alegre (HCPA); Universidade Federal do Rio Grande do Sul (UFRGS)*

**Introduction:** Schooling is factor influencing the perception and auditory skills.

**Objectives:** To verify the correlation between social participation restriction after hearing aids fitting and level of schooling in adults and elderly.

**Methods:** A cross-sectional and observational study was approved by the Research Ethics Committee under Protocol no. 1.760.868. The study included individuals who have agreed to participate in the study, assisted in a public hospital. They answered instruments: Hearing Handicap Inventory for Adults (HHIA) or the Hearing Handicap Inventory for the Elderly Screening Version (HHIE-S) for elderly. The score for the responses has the following alternatives: Yes (4 points), no (0 points) and sometimes (2 points). The higher the score the greater the participation restriction. For schooling's level it was considered years of study. The level of statistical significance was 5%.

**Results:** Of the 42 individuals, 64.3% were elderly. Hearing loss of the sensorineural type (65.9%) and moderate degree (35.7%) was the most prevalent in both ears. The median years of study were 6 points (P25 and P75: 4-11); 8 points (P25 and P75: 5-11) for adults and 5 points (P25 and P75: 3-11) for the elderly, with no difference between them ( $p = 0.121$ ). The total HHIA score did not present a significant correlation ( $r_s = -0.132$ ,  $p = 0.640$ ) with adult schooling. There was no significant correlation between the schooling of the elderly and the HHIE-S score ( $r_s = 0.228$ ;  $p = 0.252$ ).

**Conclusion:** There was no correlation between such measures.

**Key words:** Auditory perception; Hearing loss; Hearing aids.

### **6671. Comparative analysis of aerodynamic and voice parameters in healthy adults**

Marcela Ferraz Lopes, Telma Kioko Takeshita Monaretti, Marília Buzzo Lugli, Lilian Neto Aguiar Ricz, Hilton Marcos Alves Ricz, Gleidy Vannessa Espitia Rojas

*Departamento de Oftalmologia, Otorrinolaringologia e Cirurgia de Cabeça e Pescoço da Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo*

**Introduction:** Advances in technology enable to obtain non-invasive aerodynamic measurements and provide physiological information on the phonatory activity of the larynx.

**Objectives:** To compare between the sexes the aerodynamic and phonatory parameters in healthy adults.

**Methods:** 30 men and 30 adult women, aged between 20 and 59 years were, undergone the maximum time-phonation time, vocal intensity and aerodynamic measurements obtained by the aerodynamic phonation system model 6600 (KayPentax®), using the protocols: Pulmonary vital capacity, maximum phonation time and vocal efficiency. Body mass index was calculated.

**Results:** The groups presented an average body mass index of overweight. The maximum timed phonation time and vocal intensity were higher in males. In the aerodynamic measurements captured by the Aerodynamic Phonatory System, it was observed for Vital Capacity, greater expiratory volume in males. In the protocol Maximum Phonation Time, the groups were the same, except in the fundamental frequency, greater in females. In the Vocal Efficiency protocol, the peak parameters of airflow, aerodynamic energy power and vocal airflow were higher in men. There is no correlation between body mass index and vocal intensities, and with maximum phonation time, except, negative correlation with prolonged phoneme /z/ emission in women.

**Conclusions:** Based on evaluation with phonatory aerodynamic system, it was concluded that adult men and women have similar results in aerodynamic variables studied, with some aerodynamic parameters increased in males.

**Key words:** Voice. Voice Quality. Laryngeal system of aerodynamic phonation. Aerodynamics.

### **6672. Comparative analysis of aerodynamic and voice parameters in the elderly**

Marília Buzzo Lugli, Telma Kioko Takeshita Monaretti, Gleidy Vannessa Espitia Rojas, Hilton Marcos Alves Ricz, Lilian Neto Aguiar Ricz, Marcela Ferraz Lopes

*Department of Ophthalmology, Otorhinolaryngology and Head and Neck Surgery, Medical School of Ribeirão Preto, University of São Paulo*

**Introduction:** for standardization of aerodynamic and vocal parameters it is necessary to carry out standardization of measures, knowing that changes occur during the aging. For this issue, the new technological tools can be beneficial.

**Objectives:** To compare between the sexes the aerodynamic and phonatory parameters in healthy elderly.

**Methods:** 29 men and 29 adult women aged 60 years or over, participated. They were submitted to the maximum time-phonation, vocal intensity and aerodynamic measurements obtained by the phonic model 6600 (KayPentax®). The protocols were: vital pulmonary capacity, maximum phonation time and vocal efficiency. Body mass index was calculated.

**Results:** In the maximum timed phonation time, the elderly, men and women, presented similar values. Men presented higher values at minimal vocal intensity ( $p = 0.04$ ). In the aerodynamic phonatory system, Vital Capacity protocol, men presented higher values at the peak of expiratory airflow ( $p = 0.05$ ). In the protocol of Maximum Phonation Time, women presented a higher value in phonatory sound pressure during vocalization and average of fundamental frequency ( $p < 0.01$ ), a result that was repeated in the Vocal Efficiency protocol. Participants had an average body mass index of overweight. There was a correlation between body mass index and vocal intensity only for the usual, being positive in men.

**Conclusions:** Through aerodynamic measurements it can be concluded in the sample that elderly people have similar values in most parameters, including maximum phonation time and intensity.

**Key words:** Voice. Voice Quality. Laryngeal system of aerodynamic phonation. Aerodynamics.

### **6673. Current Approaches in the Treatment of (Central) Auditory Processing Disorder**

Joyce Fialho Rodrigues  
*Fonoaudiólogo e Esamaz*

**Introduction:** In national and international studies, a tripod of relevant behaviors has been proven to be effective and adequate procedures, and become a general consensus regarding the therapeutic approaches to APD. These are: formal (FAT) and informal auditory training (IAT), environmental modifications and compensatory strategies ("top down" Speech Therapy).

**Objective:** To review the literature produced in the last 15 years on the therapeutic approaches used in the rehabilitation of auditory processing disorder (APD).

**Data Synthesis:** According to research, individuals with a diagnosis of APD benefit greatly not only from the formal auditory training, but also when the necessary environmental modifications such as the acoustic treatment of the environment in which this individual is inserted, lowering the signal / noise ratio, is carried out concomitantly with the FAT, thus favoring a better listening comprehension. The compensatory strategies will be of paramount importance in cases where there is also impairment of language, attention and memory, thus providing better auditory stimuli through the top down path.

**Conclusion:** The publications consulted, mainly the International Guidelines, showed that there is a consensus regarding the use of this tripod, relating the therapeutic approaches used in the last decade. Therefore, the importance of joining these auditory rehabilitation programs, instead of using each procedure in isolation. This will lead to a significant improvement in the rehabilitation processes of (Central) Auditory Processing Disorders.

**Key words:** Hearing disorders, neuronal plasticity, acoustic stimulation and auditory rehabilitation.

### 6675. Voice therapy program for presbyphonia using resonance tubes

Gleidy Vannesa Espitia Rojas, Manoela Rizzo Carrijo, Patricia Moraes Pereira, Denny Marcos Garcia, Lílian Neto Aguiar Ricz  
Departamento de Oftalmologia, Otorrinolaringologia e Cirurgia de Cabeça e Pescoço da Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo

**Introduction:** Presbyphonia is the result of the relation between age and the degenerative alterations of the larynx; these alterations cause hoarseness, breathiness, reduction of voice intensity and vocal flexibility.

**Objective:** verify the effect of a voice therapy program used exercises with semi-occluded vocal tract including phonation through straws on individuals presenting presbyphonia.

**Method:** 19 adults, the mean age was 70 years (11 female and 8 male), with a diagnosis of presbylarynx, randomly divided into two study groups. Group I performed the voice exercise with the tube phonation in air and Group II performed the technique Lax Vox, with tube phonation submerged in the water (2-12cm). Participants recorded the vowel /a/ in the first evaluation and the 3<sup>a</sup>, 6<sup>a</sup>, 9<sup>a</sup> e 12<sup>a</sup>, voice therapy session. To analyze the acoustic measurements the Multi-Dimensional Voice Program (MDVP), by Kay Pentax® was used. Statistical analysis was performed through analysis of variance (Anova) and Tukey's test.

**Results:** starting to the sixth voice therapy, the Tukey's test showed significant improvements for both groups for the acoustic measures: Jitter% ( $p=0.0238$ ), Pitch Perturbation Quotient ( $p=0.0119$ ), Noise to Harmonic Ratio ( $p=0.0295$ ) and in the third voice therapy for the Shimmer% ( $p=0.0002$ ), Smoothed Amplitude Perturbation Quotient ( $p=0.0003$ ). There was maintenance of the decrease of the measurements after 12a voice therapy session.

**Conclusion:** for the groups studied, the proposed voice therapy program improved and provided stability the acoustic parameters of the participants' voices after the therapeutic proposal.

**Key words:** Voice Therapy, Presbyphonia, Aging, Voice Quality.

### 6676. Voice Handicap Index in elderly people submitted to the voice program for presbyphonia

Gleidy Vannesa Espitia Rojas, Manoela Rizzo Carrijo, Lílian Neto Aguiar Ricz, Patricia Moraes Pereira  
Departamento de Oftalmologia, Otorrinolaringologia e Cirurgia de Cabeça e Pescoço da Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo

**Introduction:** The Presbyphonia causing discomfort for the elderly but also frustration and anxiety, which could considerably worsen their quality of life

**Objective:** Compare the self-perception of the elderly people through the Voice Handicap Index before and after voice therapy program used exercises with semi-occluded vocal tract including phonation through straws on individuals presenting presbyphonia.

**Method:** 16 adults, the mean age was 70 years (8 female and 8 male), with a diagnosis of presbylarynx, with dysphonia overall severity between mild and moderate grade. The participants randomly divided into two study groups. Group I performed the voice exercise with the tube phonation in air and Group II performed the technique Lax Vox, with tube phonation submerged in the water (2-12cm). All individuals filling the Voice Handicap Index the first assessment, in the final voice therapy (12a session) and two months after finished the voice therapy.

**Results:** Comparing the first assessment and after 12a voice therapy, there were a decrease in the values of total score for Group 1 ( $p=0.036$ ) and Group 2 ( $p=0.037$ ). As for domains, also a reduction of the emotional domain score for the Group 1 ( $p=0.020$ ), for the functional domain score in Group 2 ( $p=0.045$ ) and for the organic domain score in Group 1 ( $p=0.004$ ) was identified. There were no changes between the results of 12a voice therapy session and after two months for both groups.

**Conclusion:** the proposed voice therapy program reduces a vocal handicap caused by presbyphonia.

**Key words:** Voice Therapy, Presbyphonia, Aging, Voice Handicap.

### 6678. The importance of oral hygiene in patients with cleft lip and cleft palate

Raiane de Moraes Pacheco, Pâmela Pacheco Aguiar, Marcia Angelica Peter Maahs, Lisiâne de Rosa Barbosa, Maria Cristina de Almeida Freitas Cardoso, Renata Pereira Prates, Jennifer Alvares Trindade  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Cleft lip and palate are usually accompanied by dentofacial deformities and periodontal problems, as well as the high risk of dental caries. Therefore, guidelines on basic care with oral hygiene for patients and their guardians are very important as prevention measures, both in the pre-and postoperative period.

**Objective:** The objective of this study is to guide and raise awareness among the families of facial malformations patients in the Extension Project "Attendance to the Patient with Cleft Lip and Cleft Palate" from the Federal University of Health Sciences of Porto Alegre, through actions on oral hygiene care.

**Method:** Descriptive study of health product approved by the Ethics Committee in Research under the report number 1900382.

**Results:** A folder was developed with basic guidelines for the different ages, aiming to promote the oral health of patients with cleft lip and palate. This addresses the necessary care with oral hygiene as prevention measures to avoid diseases such as dental caries and periodontal problems, as well as systemic diseases.

**Conclusion:** The clinical orientation of the health professional, complemented by information from the folder on oral hygiene care in patients with cleft lip and cleft palate, is a form of awareness and counseling for families in the prevention of possible oral diseases, such as caries, Periodontal, and systemic diseases.

**Key words:** Cleft lip; Cleft palate; Oral Hygiene; Awareness; Child Guidance.

### 6679. Attention to cleft lip and palate

Raiane de Moraes Pacheco, Jennifer Alvares Trindade, Renata Pereira Prates, Maria Cristina de Almeida Freitas Cardoso, Lisiâne de Rosa Barbosa, Marcia Angelica Peter Maahs, Pâmela Pacheco Aguiar  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Cleft lip and palate is a congenital craniofacial malformation that affects the structures of the lip and/or palate, which occurs due to a fusion error of embryonic facial processes. In Brazil, the prevalence is 1/650 live births with multifactorial etiology.

**Objectives:** Receiving patients with cleft lip and palate and to treat them, with clinical supervision.

**Methods:** Study approved by the Ethics Committee in Research under report number 1900382.

**Results:** This action takes place since 2013 in the outpatient clinics of the Pediatric Hospital from Irmandade Santa Casa de Misericórdia de Porto Alegre Hospital Complex, joining the Speech-language and Hearing Science course of the Federal University of Health Sciences of Porto Alegre with the team of Pediatric plastic surgery. There are 15 children undergoing speech-language therapy due to language changes and/or myofunctional dysfunctions.

**Conclusion:** The work together with this population allows the academics a specific activity of extension to health care, with the development and improvement of theoretical-practical knowledge, mainly interdisciplinarity. The rehabilitation of children with cleft lip and palate is planned by the National Council of Secretaries of Health as a medium and high complexity assistance and aims at promoting the integral health of children and adolescents, guaranteeing them a comprehensive and specific multiprofessional care, as well as referral to other areas of health. Faced with the demand and time required for clinical follow-up of these patients, their frequency is preponderant for the effectiveness of the treatment.

**Key words:** Cleft lip; Cleft Palate; Speech, Language and Hearing Sciences; Child.

**6680. Neurochemical profiles of the calcium binding proteins - expressing neurons in auditory processing areas of the primate Sapajus spp.**

Graziela Ligia da Silva Santos, Ana Claudia Frizzo, Leila Maria Guisconi Campos, Ana Luiza Decanini Miranda de Souza, Luciana Pinato, Roelf Justino Cruz Rizzolo

Universidade Estadual Júlio de Mesquita Filho - UNESP Marília

**Background:** Calcium-binding proteins are neurochemical markers of the auditory system which plays a major role in the neurotransmission of these areas. The regulation of calcium binding proteins expressing neurons may compensate for changes in excitability by buffering calcium, like happens in aging when change in the relative density of neurons that express calcium binding proteins may serve to preserve auditory processing in the face of increased neuronal excitability. However, there is few studies about how these neurochemical markers common to the auditory system change with natural environmental cycles or the animal's cycles of activity and rest.

**Objective:** to characterize the neurochemical profile and possible daily changes in the inferior colliculus and superior olfactory complex of the primate Sapajus spp.

**Methods:** Brain slices of six adult males perfused at daytime and nighttime were processed for parvalbumin and calbindin immunohistochemistry. The densities of immuno-positives neurons were analyzed with unbiased stereology.

**Results:** We found parvalbumin positive cells mainly in the central nucleus and calbindin positive cells mainly in the surrounding cortex region of the inferior colliculus. In the superior olfactory complex both proteins showed few positive cells in the periolfactory ventral medial subdivision at night.

**Conclusion:** The calcium binding proteins showed different expression profiles in the subdivisions of the inferior colliculus and superior olfactory complex of the primate Sapajus spp. In the inferior colliculus, these profiles didn't change in the day or night periods what highlights that the maintaining of this area's functionality is independent of natural light environmental changes.

**6682. Microcephaly program: Hearing and sucking behaviour**

Graysianne Alves de Jesus, Priscila Feliciano de Oliveira, Nuala Catalina Santos Habib, Vanessa Menezes de Jesus, Jose Suelton Luiz Costa dos Santos

Universidade Federal de Sergipe

**Introduction:** Early stimulation can reduce the commitment level of microcephaly newborns. Family Health Support Center team is pioneer in Sergipe and built up a Macroamor Microcephaly therapeutic group, which objective is to promote stimulation from zero to three years of age.

**Objective:** Perform hearing screening with transient otoacoustic emissions (TEOA) and characterize orofacial motility aspects in microcephaly newborns. MÉTHOD: Nine newborns composed the sample and they were attended in Itabaiana (SE) from January/2016 to March/2017. In total, it was 53 meetings, distributed in two hours weekly. We evaluated and performed a orofacial motility therapeutic procedure, especially sucking behaviour and performed a hearing screening. All evaluation was discussed with NASF multiprofessional team and we put in practice the Singular Terapeutic Project (STP).

**Results:** Most of them were assiduous, and the minority missed out some meeting, once they have respiratory insufficiency. Initially seven babies passed in TEOA and two failed, but when retested, all of them passed. As an orofacial motility, they had decreased lip tone, cheek and tongue with sialorrhea and tongue introposition. In the end of the therapeutic procedure they had better tonicity and mobility of oral structures. Multiprofessional team worked as a group and all babies had better neuropsychomotor development. STP managed continued care and made it possible to strengthen the care relationship for each child, once parents and NASF team worked together.

**Conclusion:** All babies had a normal hearing and the stimulation program allowed a functional gain to orofacial motility.

**Key words:** microcephaly, newborn, public health, sucking behaviour, hearing.

**6684. Auditory processing disorder in children with a history of otitis media: effect of visual and auditory training**

Caroline Donadon, Maria Francisca Colella dos Santos, Milaine Dominici Sanfins, Letícia Reis Borges

Universidade Estadual de Campinas

**Introduction:** Otitis media is a prevalent childhood disease that can cause risk of Central Auditory Processing Disorder that may be rehabilitated by auditory training.

**Objectives:** To examine the responses of temporal processing tests in children who undertook bilateral myringotomy surgery.

**Methods:** Temporal processing evaluation (Frequency Pattern Test and Gaps in Noise) had been developed to evaluate temporal responses in four children ( $11 \pm 1.82$  years) in three different moments of intervention. Temporal processing tests were performed before (E1) and after (E2) visual training. Shortly after this, the same four participants performed an auditory training program and were reassessed post-auditory intervention (E3). The visual and auditory intervention were applied through the website "Afinando o Cérebro" in 8 sessions of 45 minutes each, once a week. Participants had, at moment of all interventions, normal air and bone conduction thresholds (< 15 dBHL for 250-8000 Hz), A' type tympanogram with presence of ipsi and contralateral acoustic reflexes bilaterally.

**Results:** Analysis indicated a slight decline in mean score for Frequency Pattern [RE: 2.05% - LE: 6.02%] and Gaps in Noise [RE: 3.22% - LE: 6.47%] comparing before and after visual training evaluation. The opposite was observed for post-auditory intervention that presented a great improvement in mean scores for Frequency Pattern [RE: 33.33% - LE: 76.5%] and Gaps in Noise [RE: 55% - LE: 73.68%].

**Conclusion:** Auditory training may be considered an effective rehabilitation for temporal processing abilities in children who undertook bilateral myringotomy surgery. The restricted number of participants in this study calls for further research.

**6687. Study of the infants' hearing whose mothers had suspected infection by virus zika: preliminary results**

Karolina Pessote Sideri, Maria Francisca Colella dos Santos, Milaine Dominici Sanfins, Thais Antonelli Diniz Hein

Universidade Estadual de Campinas

**Introduction:** Virus Zika infection was first identified in Brazil in 2015 and it's known that, among other disorders, the auditory system is one of those that can be affected by this infection.

**Objective:** To study the infants' hearing whose mothers had suspected infection by Virus Zika during the gestational period.

**Methods:** A quantitative transversal study with 11 infants whose mothers had suspected infection in gestational period by Virus Zika, without associated diagnosis of microcephaly. Evaluations with Auditory Brainstem Evoked Potentials were performed in Neonatal Hearing Screening and to investigate the auditory integrity and the electrophysiological threshold; Transient Evoked Otoacoustic Emissions; and Immittance measurements.

**Results:** All the subjects evaluated had already performed Neonatal Hearing Screening with Auditory Brainstem Evoked Potential Automatic at 35dB and presented "pass" result bilaterally. The presence of waves I, III and V with absolute latency values and with interpeak intervals I-III, III-V and IV within the limits of normality for all subjects were observed in 80dBNA intensity for stimulus click, in both ears. Electrophysiological thresholds between 20-30dB were observed. Otoacoustic emissions were present bilaterally in 72.7% of the cases and the tympanometric type A curve in 90.9% of the cases.

**Conclusion:** No hearing changes were found in the study population. However, as with other congenital infections, follow up of cases during the first years of life is suggested because of the possibility of progressive and/or late losses, as well as changes in the development of hearing abilities.

**Key words:** Speech, Language and Hearing Sciences; Audiology; Virus Zika.

**6688. Correlation of the performance of patients with cochlear implants in speech perception tests and time of sensory deprivation**

Carolina de Campos Salvato, Sílvia Regina Siqueira de Araújo, Sheila de Souza Vieira, Alexandra Dezani Soares, Brasília Maria Chiari, Renata Müller

Universidade Federal de São Paulo

**Introduction:** Among the various impairments that affect the human being, one of the most impacting is the auditory one, which can compromise the life of the subject in diverse contexts, mainly in the communication. The Cochlear Implant is a resource that enables hearing to deaf individuals. Although the cochlear implant benefits the communication, the users report difficulties of understanding in situations with competitive noise.

**Objective:** To compare the performance of patients with Cochlear Implants in tests of speech perception in silence and noise.

**Method:** Participants were submitted to the following evaluations: anamnesis, free field audiometry with cochlear implants in the sound frequencies from 250 to 4000Hz, speech reception threshold search, and speech perception test LSP - "Sentence Lists in Portuguese". For analysis, the data were submitted to appropriate statistical treatment and applied in the STATISTICA® program, with a descriptive analysis; Pearson's linear correlation coefficient and two-dimensional scatter plots.

**Results:** There was no statistically significant correlation when correlating the speech perception test in silence and noise with the time of sensory deprivation. However, when correlating the Cochlear Implant Use Time with the performance in the sentence recognition test in silence, there was a statistically significant relationship.

**Conclusion:** There was no correlation in the performance of patients with Cochlear Implants in tests of speech perception in silence and noise and time of hearing deprivation. In contrast, there was a statistically significant relationship between the time of implant use and the performance in the speech perception test in silence.

**6689. Hyoid displacement during expiratory training tasks in a healthy individual**

Thalyta Georgia Vieira Borges, Carla Rocha Muniz, Charles Henrique Dias Marques, Graziela Muzzo de Oliveira, Fernanda Cristina de Oliveira Rocha

Universidade Federal do Rio de Janeiro

**Introduction:** The use of expiratory training devices in oropharyngeal dysphagia rehabilitation is intended to strengthening the submental muscle and impacts the hyoid motion. As the hyoid vertical movement is important to laryngeal closure, its horizontal motion is related to upper esophageal sphincter opening.

**Objective:** To describe the hyoid displacement during three different expiratory training tasks.

**Resumed report:** Healthy female, 23 years old, performed three expiratory training tasks using the following devices: resonance tube with high resistance (RTHR), expiratory muscle strength training (EMST) and threshold positive expiratory pressure (TPEP). The individual was upright with noseclip. Each task was repeated three times with buccinator muscle supporting (BMS) and without it. The hyoid displacement was studied by videofluoroscopy during the tasks. All measurements (millimeters/seconds) were obtained through image analysis software: vertical and horizontal movement, total excursion, excursion time and upper sustained time. The collected data were treated with descriptive statistical analysis. Higher vertical movement was found for EMST (mean and high pressure) and RTHR with BMS( $13.2 \pm 13.9$ );( $10.5 \pm 9.8$ );( $3.9 \pm 3.8$ ), and for TPEP, high pressure without BMS( $6.6 \pm 4.0$ ). Higher horizontal movement for EMST (mean and high pressure) and RTHR without BMS( $6 \pm 1$ );( $6.1 \pm 1.6$ );( $4.1 \pm 0.2$ ), and TPEP with BMS( $3.3 \pm 0.8$ ). Higher total excursion for EMST, high pressure with BMS( $12.7 \pm 9.2$ ). Shorter excursion time for all tasks without BMS. Higher upper sustained time for RTHR without BMS( $3.7 \pm 0.7$ ).

**Conclusion:** The different ways of performing expiratory training tasks can influence the hyoid motion. This knowledge

provides a more specific intervention. New studies with a major sample size are needed.

**Key words:** Deglutition disorders; rehabilitation; expiratory muscle strength training.

**6690. Foam-laser posturography: need for differentiated evaluation for elderly**

João Paulo Nogueira Araújo Santos, Renata Silva Soares, Andréa Kruger Gonçalves, Maira Rozenfeld Olchik, Alexandre Hundertmarck Lessa, Adriane Ribeiro Teixeira, Letícia Petersen Schmidt Rosito

Universidade Federal do Rio Grande do Sul

**Introduction:** Aging causes changes in the vestibular, proprioceptive and motor systems.

**Objective:** To analyze the results in "foam-laser" posturography in the elderly, comparing with the standard result.

**Methods:** The sample consisted of individuals aged 60 and over, of both sexes, practicing physical exercise, excluding elderly with a history of neurological, vestibular and motor abnormalities. The research was approved by the Research Ethics Committee (No. 466/12). A "foam-laser" Dynamic Posturography was performed, which allows the realization of the Sensory Organization Test (SOT). The measurements of antero-posterior body displacement were analyzed in six positions: open eyes (SOT I), closed eyes (SOT II), and the movement of the car (SOT III). The same positions are then verified, but with a cushion under the feet (SOT IV, V and VI). The mean values obtained in the SOT were compared with the standard results for the examination.

**Results:** The sample consisted of 109 elderly (women -81.7%). It was found that in practically all SOT positions, the mean values obtained by the elderly were below the cutover of normality for the exam, except in the SOT V, where only the elderly of 60 to 69 years reached the standard of normality.

**Conclusion:** The results demonstrate the need to develop a standard of differentiated normality for the elderly, since even physically active elderly people were not able to achieve results considered normal for adults.

**Descriptors:** Vestibule, Labyrinth; Aging; Postural Balance.

**6691. Correlation between time of use of hearing aids and the results of hearing handicap questionnaires**

Camila Zander Neves, Adriane Ribeiro Teixeira, Taís de Azevedo Picinini, Liese Loureiro Weigert

Universidade Federal do Rio Grande do Sul; Hospital de Clínicas de Porto Alegre

**Introduction:** The use of hearing aids (HAs) can help reducing the self-perception of auditory handicap.

**Objective:** Verify the correlation between restriction of social activities and time of use of HAs in adults and elderly.

**Methods:** A cross-sectional and observational study has been approved by the Ethics Committee (protocol 1.760.868). Forty-two adult and elderly patients of both genders, users of HAs assisted by the Auditory Health Program in a university hospital were studied. All patients signed the informed consent. The Hearing Handicap Inventory for Adults (HHIA) questionnaire for adults and the Hearing Handicap Inventory for the Elderly Screening Version (HHIE-S) were tested.

**Results:** Most of the 42 patients were elderly (64.3%). The total average HAs used time was 2.1 years, 2 years for adults and 2.5 years for the elderly. There was no difference between both groups ( $p=0.713$ ). The HHIE-S median for elderly was 10 points (P25 and P75: 6-16) and for adults the HHIA median was 30 points (P25 and P75: 4-60). The total average used time of HAs did not show correlation with HHIE-S ( $rs=0.099$ ;  $p=0.624$ ) and the total HHIA ( $rs=0.214$ ;  $p=0.443$ ).

**Conclusion:** The HAs average length of usage did not present correlation with self-perception of hearing impairment.

**Key words:** Hearing aids; hearing loss; Surveys and Questionnaires.

**6692. Relationship between speech and degree of severity of hearing decoding subprofile of auditory processing disorder**

Bruna Santos Sant'Anna, Renata Pereira Prates, Amanda Faleiro, Letícia Pacheco Ribas, Laura Fabiana Burkhard, Karoline Terezinha Quaresma, Laura dos Santos Abon Zahr  
UFCSPA

**Introduction:** The Auditory Processing Disorder is a difficulty in the set of listening skills necessary to analyze and interpret the sound patterns. Through a battery of tests, it is possible to identify the said disorder and classify it into five areas: auditory decoding, prosody, integration, auditory association and output organization. Often, children with phonological disorder have concomitantly, the disorder of auditory processing, which subprofile most common and responsible for the breakdown of hearing the message phonemic level, is the decoding. This can influence the degrees of severity of speech.

**Objectives:** Investigate and describe the possible relationships between the decoding subprofiles in the Auditory Processing Disorder and the degree of speech severity in Phonological Disorder.

**Methods:** Retrospective and quantitative study, based on secondary data of 130 children, from the VALDEF Database (995,344). The degree of speech severity of the subjects who had available data regarding auditory processing assessments was analyzed, totaling 63 subjects, and it was observed whether children with the decoding subprofile had greater speech severity.

**Results e Conclusion:** It was observed that 74.60% of the sample was characterized with decoding subprofile. Medium grade, 82.35% of children were characterized with the subprofile; In the medium-moderate degree, 73.33%; In the moderate-severe degree, 87.50%, while in the severe degree, only 63.50%, there being no increase in the incidence of the studied subprofile in the degree of severity. The results will be statistically demonstrated.

**Key words:** language - hearing disorders - speech sound disorder.

**6693. Mean tongue contours of the velar and palatoalveolar fricatives of brazilian portuguese**

Caroline Rodrigues Portalete, Marcia Keske-Soares, Karina Carlesso Pagliarin, Tainá Rossato Benfica  
Universidade Federal de Santa Maria

**Introduction:** Ultrasonography of speech offers several benefits, as the complete and real-time imaging of tongue surface, in light of a dynamic model of speech production.

**Objective:** This study aimed to describe the articulatory aspects of Brazilian Portuguese consonants.

**Methods:** The articulatory gestures were captured through ultrasonography of speech and analyzed using the Articulate Assistant Advanced software. From the tongue surface contour, in maximus constriction point, the points correspondents to the 42 splines of the contour were analyzed by statistical programming language "R".

**Results:** The alveolar / s / and / z / segments presented two gestures: a critical tongue tip gesture, and a medium tongue body gesture towards the hard palate. The The palatoalveolar / S / and / Z / segments presented a critical tongue tip gesture toward the alveolus, a critical tongue body gesture towards the hard palate, and a discrete tongue root gesture towards the pharynx. These findings were analyzed by the mean tongue contours and confirmed by obtaining 95% confidence intervals for the difference between the phonemes, which showed similarity to the tongue outlines of / s / and / z /, and / S / e / Z /, but difference in the tongue root and body between the alveolar and palatoalveolar phonemes.

**Conclusion:** The dynamics models of speech production brought an objective feature to phonology, making it possible to differentiate the articulatory gesture between consonants of Brazilian Portuguese.

**Key words:** ultrasonography; speech; tongue; articulatory phonology.

**6699. Speech-language therapy aspects in head and neck arthrogryposis**

Jennifer Alvares Trindade, Lisiâne de Rosa Barbosa, Carolina Nunes Laux, Jordana da Silva Freitas, Maria Cristina de Almeida Freitas Cardoso, Liliane Menzen, Raiane de Moraes Pacheco  
Federal University of Health Sciences of Porto Alegre

**Introduction:** Arthrogryposis is a multiple non-progressive congenital syndrome characterized by a series of malformations, as articular stiffening and muscle contractions. This disease has an incidence of 1:300 per 5000 live birth. Its manifestations occur during the period of embryonic development in the intrauterine life and it can cause humerus fracture, crooked feet and stiffening joints.

**Objectives:** Exploring speech-language disorders in a patient diagnosed with arthrogryposis.

**Resumed report:** This is a case report approved by the Ethical Committee in Research number 1.900.382. A clinical database analysis of the medical evolution of a patient with one year and eight months, whose jaw stiffening triggered the diagnosis of severe grade pediatric dysphagia was performed, by the functional and structural examination. It was observed myofunctional changes in tonus and mobility; Difficulties in the preparation of the bolus, sialorrhea and no movement or reflex of swallowing. Through behavioral audiometry by orientation responses, it was found suggestive results of probable bilateral hearing loss, with minimal degree in the right ear and upper degree in the left ear.

**Conclusion:** Due to muscle stiffening and joint contractions affecting the head and neck regions, the clinical characteristics of arthrogryposis allow for speech-language and hearing disorders, triggering structural and functional orofacial alterations and favoring the occurrence of oropharyngeal dysphagia. The hearing loss associated with the condition is suggested, based on the hearing findings. The patient was referred to the Pediatric Otorhinolaryngology Department, so that, at a medical criterion, such investigations may proceed.

**Key words:** arthrogryposis; Speech-language therapy; deglutition disorder.

**6702. Children's voices: the speech-language pathology intervention as a modifying factor of the voice concept of the dysphonic child**

Maria Teresa Rosangela Lofredo Bonatto, Henrique Olival Costa PUC-SP

**Purpose:** The purpose of this study was to observe and analyze the voice concept of the dysphonic child and if the speech-language pathology intervention can modify it.

**Method:** 60 dysphonic children, male and female, between 05-14 years were divided into two groups, one with 21 children, pre-intervention, that would be exposed to a speech-language pathology intervention; and another group of 39 children, post-intervention, of which 12 had been discharged with a minimum therapy period of two months. Both groups answered to four questions about their knowledge concerning voice and its functions, importance, benefits, difficulties and usefulness. The research was conducted at the Speech-Language Pathology Department of the Santa Casa de Misericórdia (SP). Inclusion criteria: children with no neurological, mental, auditory disorders, with medical and speech-language pathological indication for speech-language pathology, who were able to understand and answer to the questions.

**Results:** in the post-intervention, statistical significance for "functions of voice"; "knowledge of the vocal disorder"; "therapy"; "consistency in the presentation of the theme" and "vocabulary"; and in the subcategory of vocabulary to "noun".

**Conclusion:** study showed that dysphonic children understand voice as means of communication, working instrument, factor of social impairment, essential for life and to express feelings, associated with the breath and a synonym of speech. With respect to speech-language pathology, the dysphonic child becomes more able to: verbalize on the voice functions, recognize improvements, understand the performance of exercises, use a broader communicative vocabulary and explain more clearly the needs of vocal communication.

**Key words:** dysphonia, therapy, child, intervention.

**6703. Applicability of the tests localiza-som and escuta-som to evaluate the benefits of implantable auditory prostheses in unilateral hearing loss**

Gleide Viviani Maciel Almeida, Denise Maria Vaz Romano França, Angela Ribas, Adriana Bender Moreira de Lacerda, Gislaine Richter Minhoto Wiemes, Débora Lüders  
Universidade Tuiuti do Paraná

**Introduction:** Unilateral hearing loss impairs auditory abilities, especially sound localization skills and speech recognition in noisy environments.

**Objective:** To investigate the ability of sound localization and speech recognition in the presence of noise in subjects with unilateral hearing loss users of implantable hearing aids using the LOCALIZA-SOM and ESCUTA-SOM tests.

**Method:** Three users of cochlear implant (CI Group) and three users of bone-anchored prosthesis (BAP Group) were submitted to the LOCALIZA-SOM and ESCUTA-SOM tests and to the Speech, Spatial and Qualities of Hearing Scale questionnaire. The results of the auditory tests were compared to their standard of normality; the results of the questionnaire were analyzed from the following variables: hearing to speech, spatial hearing, hearing qualities and general hearing; the results of the two groups were compared to each other.

**Results:** In the absence of noise, all respondents had good auditory performance, as noise increases speech recognition performance worsens. The CI Group subjects performed better in the localization test. There was a significant difference between the results of the questionnaire, in all domains and in general, being better the answers for the CI Group.

**Conclusion:** Implantable auditory prostheses were efficient in rehabilitating the hearing of individuals with unilateral hearing loss. The best results about speech recognition abilities and sound localization in presence of noise were in cochlear implant users. The tests were sensitive to evaluate the speech recognition and sound localization in users of unilateral implantable prosthesis.

**Key words:** Unilateral deafness. Cochlear implant. Bone-anchored hearing aid. Sound localization. Speech recognition.

**6704. Brazilian auditory and language development scale (edal-2) in the implanted deaf child**

Gleide Viviani Maciel Almeida, Renato Riesemberg Gabriel Martins Filho, Angela Ribas  
Universidade Tuiuti do Paraná

**Introduction:** The assessment and monitoring of auditory and oral language abilities in the implanted child are important to verify the effectiveness of these skills. For this, it is recommended the application of protocols as a form of documentation and analysis.

**Objective:** To characterize auditory and language performance in children with hearing age between two and five years using the EDAL-2.

**Methods:** This is an experimental, descriptive study. A total of 125 children were divided into two groups: control, with 102 normal hearing children aged between two and five years; And experimental, with 23 deaf children who were implanted for at least two years, and at most five. All children were evaluated through EDAL-2, for oral expression and comprehension, considering the age groups every six months. The results of both groups were analyzed and compared.

**Results:** Auditory and oral language ascending responses were observed in both groups, with improvement as chronological and hearing age increased. The results obtained in the study group are statistically worse than in the control group. The EDAL-2 proved to be easy to use and allowed the performance monitoring of the implanted children.

**Conclusion:** The auditory and oral language performance in implanted deaf children was characterized by EDAL-2 and was inferior to the results obtained in their hearing peers with the same auditory experience period. The children in the study group with longer use of the implant, and shorter sensorial deprivation were the ones that achieved the best results.

**Key words:** Hearing; Language; Child; Evaluation protocol; Cochlear implant.

**6705. Super pedro: a story about a boy who besides being cleft lip and cleft palate was a superhero**

Jennifer Alvares Trindade, Lisiane de Rosa Barbosa, Marcia Angelica Peter Maahs, Maria Cristina de Almeida Freitas Cardoso, Letícia Pacheco Ribas, Nicole da Costa Filikoski  
Federal University of Health Sciences of Porto Alegre

**Introduction:** The cleft lip and cleft palate are congenital craniofacial malformations, caused by an error in the fusion of the embryonic facial processes. They have multiple etiological factors: heredity, maternal aspects, irradiation, use of medications; and an incidence of 1/650 live births in Brazil. This malformation has several speech-language therapy implications, being common that these patients do not have articulatory adequacy for several sounds of speech, which hinders their communication and social interaction.

**Objective:** To promote children with cleft lip and cleft palate a best acceptance of their malformations and to motivate adherence and commitment to the speech-language therapy process.

**Methods:** Descriptive study of health product approved by the Ethics Committee in Research number 1900382. A booklet was developed with simple language and aimed for children, with the purpose of informing, through a story, the important aspects of the life of a child with cleft lip and cleft palate from birth, approaching in a fun way, the process of Repair of malformation and rehabilitation.

**Results:** A booklet with nineteen pages, colored and free of charge, which through the fantasy of the children's universe, tells about the rehabilitation stages and challenges faced by these patients and families throughout this process, besides motivating adherence to treatment.

**Conclusion:** Through the preparation of this material, distribution and dissemination, the improvement of the speech-language, patient and family relationship is expected, as well as the achievement of the guardian's commitment, making attendance to the rehabilitation process more effective.

**Key words:** Cleft lip; Cleft palate; Speech-language Therapy; Rehabilitation.

**6710. Performance of speech motor skills in children with speech sounds disorders by means of the DEMSS-BR's Evaluation Instrument**

Letícia Bitencourt Uberti, Marieli Barichello Gubiani, Marizete Ilha Ceron, Marileda Barichello Gubiani, Marcia Keske-Soares, Karina Carlesso Pagliarin  
Universidade Federal de Santa Maria

**Introduction:** childhood apraxia of speech is a motor speech disorder characterized by difficulty in planning the motor act, which affects the precision and consistency of movements. There are tests, including the instrument adapted to Brazilian Portuguese, Dynamic Evaluation of Motor Speech Skills (DEMSS-BR), that verify the production accuracy and speech consistency variables.

**Objectives:** to analyze and compare the performance of precision of production and speech consistency variables in children with typical speech acquisition, phonological disorders and childhood apraxia of speech in DEMSS-BR.

**Methods:** the sample was composed of 18 children, both sex, between 4 years and 6 months old and 5 years and 8 months old. They were divided into three groups: 6 children with typical speech acquisition, 6 children with phonological disorders, and 6 children with childhood apraxia of speech. After evaluating the children with DEMSS-BR instrument, the performance was verified through analysis of the production precision and speech consistency variables. The comparison of the performance between groups was calculated using Mann-Whitney U Test.

**Results:** children with childhood apraxia of speech presented worse performance in the production precision and speech consistency variables when compared to the other groups.

**Conclusion:** the childhood apraxia of speech group presented worse performance on DEMSS-BR when compared to typical speech acquisition group and speech sound disorders group. It was possible to verify that DEMSS-BR also assists in the differential diagnosis for speech sounds disorders.

**Key words:** Apraxia, speech, differential diagnosis, articulation disorders.

#### 6711. Importance of cephalometry in the oral breathing approach

Gabriele Alves Ferraz de Elly, Natália Valduga Bisatto, Marcia Angelica Peter Maahs, Monalise Costa Batista Berbert, Luryane Santos Ferreira, Pâmela Pacheco Aguiar  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** There are dentoskeletal and myofunctional changes related to oral breathing. The cephalometric analysis may benefit to dentistry and speech therapy, in the last one especially in the orofacial motricity area, in which the quantitative analysis of the orofacial morphology complementing the clinical evaluation.

**Purpose:** Describe an approach of an oral breathing patient, which had the cephalometric analysis before and after orthodontic treatment and the retention period for routing to the speech therapist.

**Case report:** A 9 years old and 10 months pacient in mixed denture phase; oral breathing with night drool, difficulty in lip sealing, hypertrophied adenoids, but not obstructive, class II malocclusion due to mandibular retrognathism, protruding and proclined lower incisors, vertical growth pattern, convex labial profile and increased overbite and overjet. The treatment was performed with extraoral orthopedic and fixed orthodontic appliances for 2 years. As an upper containment it was indicated to follow the night use of the extraoral and a removable appliance with Hawley arch, and below a fixed hygienic restraint 3 to 3. As results that support in the improvement of the sealing and lip profile and oral breathing, correction of skeletal class II and vertical growth control occurred.

**Conclusion:** A cephalometric analysis to evaluate dentoskeletal and aesthetic pattern in the before, after and in orthodontic containment, helping diagnosis, planning and prognosis of the oral breathing patient, and can contribute to the clinical speech therapy reasoning pointing the best functional performance to the bone structure of the patient.

**Key words:** cephalometry, speech therapy, cephalometric analysis.

#### 6712. Speech-language therapy approach in a case of dysphagia for cleft lip and cleft palate

Renata Pereira Prates, Liliane Menzen, Lisiâne de Rosa Barbosa, Maria Cristina de Almeida Freitas Cardoso, Jordana da Silva Freitas, Carolina Nunes Laux  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Cleft of lip and cleft palate are craniofacial malformations that affect the lip and/or palate. Due to this deformity, the cleft individuals often present difficulties in their oral myofunction, structures and functions, among them the swallowing disorder - denominated dysphagia.

**Objective:** The objective of this article is to report the evolution of a case of mild oropharyngeal dysphagia, pediatric, associated with cleft lip and cleft palate.

**Resumed report:** This is a case report approved by the Ethical Committee in Research under the report number 1.900.382, consisted of the analysis of clinical report data of a 25 month-old child, male, who underwent six sessions of speech-language therapy, which aimed at the habilitation of nutritive suction; increased by body elevation for swallowing; suction-swallowing-breathing coordination with flow control; and observations of signs of laryngeal penetration.

**Conclusion:** In the case reported, we found a good clinical prognosis was observed in the diagnosis of mild oropharyngeal dysphagia, evolving into a functional swallowing, combined with surgical correction. We reaffirm the importance of research and speech-language therapy expertise in cases of dysphagia in patients with cleft lip and cleft palate, considering the improvement of quality of life and the prevention of other changes associated with the repair surgery.

**Key words:** cleft lip; cleft palate; swallowing disorder; speech-language therapy.

#### 6714. Immediate Effect of Expiratory Strengthening Training in Swallowing and Voice in Patients with Parkinson Disease

Viviane Gomes da Silva, Charles Henrique Dias Marques, Mariana Ribeiro Lopes Neves, Thays Correa da Veiga  
Universidade Federal do Rio de Janeiro

**Introduction:** Parkinson is a neurodegenerative disease that can progress with dysphagia and dysphonia. The expiratory strengthening training has been widely used as a strategy for rehabilitation.

**Objectives:** to describe the immediate effect of the expiratory strengthening exercise in patients with Parkinson's disease.

**Methods:** data from the anamnesis, staging (Hoehn&Yahr scale) and acoustic records (pre and post exercise) of 5mL and comfort swallowing of liquid, of sustained vowel /e/ and counting from 1 to 20. Compared flexible tube in container (300mL of water, 3cm from the bottom) and respiratory incentive device Respiron (classic, charge0).

**Results/Conclusion:** 10 patients (7 male), average age  $75.2 \pm 11.15$ , staging  $2.85 \pm 1.1$ . Means and standard deviation, pre and post exercise with flexible tube and Respiron, to 5mL respectively: fundamental frequency ( $650.5 \pm 94.88$ ;  $652.5 \pm 51.83$ ;  $662 \pm 48.71$  Hz), intensity ( $95 \pm 6$ ;  $94.3 \pm 19.9$ ;  $94.5 \pm 9.65$  dB) and number of deglutition ( $1 \pm 1.06$ ;  $2 \pm 0.67$ ;  $1 \pm 0.71$ ). Comfort swallowing: fundamental frequency ( $630.5 \pm 59.04$ ;  $710 \pm 107$ ;  $638.5 \pm 188.36$  Hz), intensity ( $94.5 \pm 11.84$ ;  $94.5 \pm 8.43$ ;  $93.95 \pm 8.81$  dB) and number of deglutition ( $1.5 \pm 1.3$ ;  $1.5 \pm 0.7$ ;  $1.5 \pm 0.82$ ). Vowel /e/: deviation diagram ( $2.1 \pm 1$ ;  $2.4 \pm 0.7$ ;  $1.9 \pm 0.74$ ), jitter ( $0.79 \pm 1.16$ ;  $1.21 \pm 1.39$ ;  $0.8 \pm 0.98$ ), shimmer ( $8.7 \pm 3.67$ ;  $10.97 \pm 6.31$ ;  $8.7 \pm 3.67$ ), irregularity ( $4.88 \pm 1.18$ ;  $5.34 \pm 1.15$ ;  $4.81 \pm 1.06$ ), Glottal Noise Excitation ( $0.61 \pm 0.25$ ;  $0.57 \pm 0.27$ ;  $0.63 \pm 0.23$ ) and noise ( $1.76 \pm 1.09$ ;  $1.98 \pm 1.08$ ;  $1.7 \pm 0.93$ ). Count: fundamental frequency ( $160.5 \pm 36.1$ ;  $146.97 \pm 35.62$ ;  $154.44 \pm 39.3$  Hz), intensity ( $50.3 \pm 5.8$ ;  $48.7 \pm 4$ ;  $47.6 \pm 4.5$  dB), variability ( $129.5 \pm 57.9$ ;  $113.6 \pm 42.9$ ;  $121.3 \pm 52.8$ ) and semitones ( $13.9 \pm 3.9$ ;  $14.2 \pm 5.6$ ;  $14.2 \pm 4.6$ ). According to the results, the two models of exercises generate impacts on swallowing and voice. It is suggested to be considered individual issues in the analysis of the effect of exercise in the intervention process.

**Key words:** parkinson disease, deglutition disorders, dysphonia, rehabilitation.

#### 6716. Therapeutic strategies for neonatal and pediatric dysphagia intervention: a systematic review of Brazilian speech-language therapy practice

Thais Moreno Ribeiro, Lenice de Fátima da Silva Munhoz  
Iea Instituto de Estudos Avançados da Audição

**Introduction:** The survival of high risk babies has increased the number of children with swallowing disorders who need therapeutic intervention to develop oral motor abilities for feeding.

**Objective:** To analyze recent Brazilian studies regarding speech-language therapy strategies used in neonatal and pediatric dysphagia intervention.

**Data Synthesis:** A systematic review of the Brazilian scientific publications about speech-language therapy strategies used in neonatal and pediatric dysphagia intervention was conducted. Searches were performed in the electronic databases Scielo and Lilacs. The keywords used were "dysphagia", "swallowing disorders", "children", "neonate", "intervention", "oral stimulation" and "speech-language therapy". Articles published from 2010 and 2017 in Portuguese were included. Among 459 articles found, only 13 were about a speech-language therapy strategy used in childhood dysphagia intervention. Nine studies (69,3%) were in neonatal population and four (30,7%) in pediatrics. Nonnutritive sucking were used in all studies with neonates. Posture and food consistency adaptations during feeding were used in three studies (75%) with pediatric population. According to the methodological analysis performed by researches independently, nine studies (69,2%) were classified as poor quality, three (23%) as moderate quality and one (7,8%) as good quality, which was the only randomized controlled trial found.

**Conclusion:** Recent Brazilian studies regarding speech-language therapy strategies used in childhood dysphagia intervention are few. Moreover, a considerable studies proportion were classified

as poor methodological quality. Nonnutritive sucking is the most used strategy with neonates, while posture and food consistency adaptations is more frequent in pediatric population.

**Key words:** deglutition disorders; child; infant; speech, language and hearing sciences.

#### 6717. Speech-language intervention in tuberculous meningoencephalitis in childhood: case report

Tamires Queiroz Vasco, Rafaela Lino de Oliveira, Lisiâne de Rosa Barbosa, Camila Lucia Etges, Laura Fuchs Nunes

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Tuberculosis is a serious public health problem and it has a high predominance in developing countries. Among the extrapulmonary forms, tuberculous meningoencephalitis is the most severe. The swallowing involves the integrity of the central nervous system.

**Objectives:** To report the speech-language intervention in a case of tuberculous meningoencephalitis in infancy, in a hospital environment.

**Resumed report:** Female patient, 1 year 8 months old, hospitalized for persistent fever for 13 days. She was hospitalized for 69 days, using nasoenteric nutrition, cerebrospinal fluid collection and computed tomography of the skull, showing tuberculous meningitis, with hypertonia due to sequelae - probably in phase II of meningoencephalitis. She underwent 33 speech-language consultations during hospitalization. In the speech-language evaluation she had a diagnosis of moderate to severe oropharyngeal dysphagia. In the intervention, gustatory stimulus was performed with pasty foods and intraoral stimulation associated with thermal stimulation. The patient shows choking followed by cough. After the interventions, there was a sketch of non-nutritive sucking and mastication with altered pattern, hard positioning during the offers, dental tightening and cervical auscultation with the presence of stridor. Therefore, there is indication of Gastrostomy. The audiological examination showed a probable sensorineural hearing loss secondary to meningoencephalitis.

**Conclusion:** It is important the speech-language monitoring in hospital intervention in the evaluation and rehabilitation process, especially in swallowing and hearing in patient care.

#### 6724. Phonological alterations and reading and writing difficulties in children of the third year of elementary school

Lenice de Fátima da Silva Munhoz, Rayane Rodrigues Alves

IEAA - Instituto de Estudos Avançados da Audição

**Introduction:** The acquisition of phoneme-grapheme correspondence requires well-established phonological representations. However, there are few studies that show the relationship between phonological alterations and reading and writing difficulties in children who are in the last year of the literacy process.

**Objective:** To verify if the presence of phonological alterations is associated to reading and writing difficulties in children of the third year of elementary school in municipal education network.

**Methods:** Cross-sectional observational study carried out with 34 children. For phonological evaluation, the ABFW Phonology Test was used. For reading and writing evaluation, the Pro-Spelling Test was used. In statistical analysis, the Mann-Whitney Test was used and a significance level of 5% was adopted.

**Results:** Participants were divided into two groups according to phonological evaluation results: Research Group (presence of phonological processes, n = 17, mean age = 9 ± 0.9 years) and Control Group (n = 17; mean age = 8.7 ± 0.5 years). In reading and writing evaluation, there was significant difference between groups in words (p = 0.001), pseudo words (p <0.001), with pictures (p = 0.001) and phrases (p = 0.02) dictation tests and in lexical memory (p = 0.004).

**Conclusion:** Children with age-inappropriate phonological processes in the last year of literacy process had lower scores on reading and writing skills. Therefore, the presence of phonological

alterations at this stage may be associated with the reading and writing difficulties observed.

**Key words:** child; articulation disorders; literacy.

#### 6726. Sound exposure and audiometric profile of military police band musicians

Débora Lüders, Kelly Regiane Ribeiro da Silva Martins, Adriana Bender Moreira de Lacerda, Claudia Giglio de Oliveira Gonçalves, Adriana Betes Heupa

Universidade Tuiuti do Paraná - UTP

**Introduction:** Loud music can cause hearing loss and symptoms such as tinnitus. That can lead to the end of a musician's professional career.

**Objective:** To analyze the sound exposure and the auditory profile of musicians from a Military Police band.

**Methods:** 34 musicians (31 men and three women) participated in the study, with an average age of 33.21; and an average time in the band of 7.38 years. Auditory symptoms and knowledge of hearing protection were ascertained. The sound pressure level was evaluated in five trials. Conventional threshold and high frequency tone audiometry were also performed.

**Results:** The average sound pressure levels assessed during the five trials ranged from 93.2 to 98.5 dB LAeq for three hours of testing. Six musicians (17.64%) reported tinnitus, which was also reported as most frequent complaint after band practices (11.76%). Only one musician always used hearing protection and 10 musicians (29.41%) never wear hearing protection. Relative to the audiometric profile, eight (23.52%) musicians had thresholds higher than 25 dB HL in one or both ears. The worst average of tonal thresholds, even within normality, occurred at frequencies of 6000 Hz and 11,200 Hz, in both ears.

**Conclusion:** The sound exposure of the musicians in a three-hour practice exceeds the limits proposed in Brazilian Legislation. Thus, there is a negative impact on the hearing of its participants since audiological losses and presence of tinnitus were diagnosed.

**Key words:** Hearing Loss; Musician; Audiometry, Pure-Tone.

#### 6728. Symptoms analysis of patients in Otoneurology sector Anomalies Rehabilitation Hospital Craniofacial

Maria Julia Ferreira Cardoso, Francielle Martins Ferreira, Bárbara Camilo Rosa, Jerusa Roberta Massola de Oliveira, Gláucia Gonçalves Rainieri

Universidade de São Paulo

**Introduction:** Body balance depends on vision functioning, proprioceptive sensitivity and the vestibular system. Conflict in the integration of this information can be translated as dizziness, it can be consequence of dysfunction in any this system, vestibular or not. Purpose: To describe the most frequent signs and symptoms of patients seen at the Hospital of Rehabilitation of Craniofacial Anomalies in Bauru-SP.

**Method:** This is a simple quantitative exploratory study with data collection, through a specific history. Data were through analysis of medical records of patients seen at the clinic Otoneurology Health Division Hearing. Twenty-nine records have been verified by comparing the main signs and symptoms of patients, of both genders and to the age group 27-80 years old.

**Results:** The following symptoms were observed: dizziness, vertigo, gait deviation, neurovegetative signs, hearing loss, tinnitus, syncope, dark vision and diplopia. There was a higher prevalence of females (68%) than males (32%). The most frequent complaints were dizziness (93%), vertigo (68%), tinnitus (65%), gait deviation (44%), neurovegetative signs (58%), hearing loss (31%), diplopia (10%) and syncope (3%).

**Conclusion:** Concluded in the study that the signs and symptoms with more incidence in patients attended in the Sector were vertigo / dizziness, tinnitus and then neurovegetative signs. Thus, it is possible to identify that the majority of the patients present alterations in the peripheral vestibular system, since the signs of characteristic of central alteration presented in a smaller percentage.

**Key words:** Vestibular System. Balance. Vertigo. Dizziness.

**6737. Oropharyngeal Dysphagia in a case of dermatological disease Scleromyxedema**

Lisiani Moraes Alves, Sheila Tamanini de Almeida, Thayze Maria Marques Torbes, Mariane de Moura Fernandes, Dandara Tailuma Weiler Piloti, Rafaela Pagani Palermo

*Universidade Federal de Ciências da Saúde de Porto Alegre*

**Introduction:** Patients with Scleromyxedema can presents biomechanical disorders when swallowing, along the physiopathology evolution from disease.

**Objectives:** to relate the case of a woman, 60 years old, hypertensive, with Schleromyxedema in fourth cycle of treatment with cortisone, significant systemic impairment and clinical worsening with swallow difficulty for solid food as a complaint.

**Resumed report:** Patient admitted with previous results from videofluoroscopic evaluation of swallowing indicative of Mild Oropharyngeal Dysphagia. At the oral phase of swallowing, presented chewing disorders, to organize and eject solids. At the pharyngeal phase, the exams were indicative of penetration with liquids when ingested continuously, but without changes when ingesting controlled sip. In clinical evaluation, were observed lips and tongue changed in mobility and sensibility, jaw and larynx with restricted movements, face and palate with sensibility and mobility preserved and unaltered vocal height. During the tests with food in liquid consistency, wasn't observed clinical signs of aspiration. When testing the pasty consistency, patient prelated difficulties, feeling the food trapped in the throat, therefore, interrupted the evaluation. Were realized four sessions of speech therapy with the aim to provide the safe and efficient swallow and to adapt the diet to pasty-liquified consistency. Received discharge from hospital with indications of the modified diet, orientations of facilitating and cleaning maneuvers during the swallow process, besides the need of follow-up post-discharge.

**Conclusion:** Emphasize the importance of investigation of swallowing disorders in Scleromyxedemas cases, aiming a better clinical and nutritional management from these patients.

**Keywords:** Deglution Disorders, Scleromyxedema, Deglutition.

**6738. Vocal imposition workshops for oral presentations**

Deborah Cristine Bonetti Rosa

*Faculdade de Odontologia de Bauru - Universidade de São Paulo*

**Introduction:** Oral presentations are of great importance both in the professional, academic environments, as in many other media. However, most people find it difficult to expose themselves in these presentations, and one of the greatest difficulties is in how to improvement in oral expression through clear and precise articulation.

**Objective:** The objective of the present work was the creation of a support material to instruct the use of voice imposition and improve in the performance of communication in public (how to speak, how to use gestures and intonation and vocal projection) in oral presentations and their application in the form of workshop training.

**Methods:** The method used was described in the apostille using voice imposition techniques that addressed the following aspects: Body communication; Proprioception; Relaxation; Breath; Voice and Articulation. Ten students from the Faculty of Dentistry of Bauru of the University of São Paulo participated in this study, submitted to a theoretical-practical training that was evaluated by a speech therapist specialized in the area of voice, where was made the pre-and post-comparative analysis of aspects how to pronounce; intonation, pauses, clear articulation and in good rhythm; appropriate voice height; self confidence; body language; clarity of message.

**Results:** the results showed the efficacy of the prepared material, since the participants who performed the training revealed a significant improvement in the post-intervention evaluation.

**Conclusion:** It is concluded that the vocal imposition techniques are valid to improve communication in oral presentation.

**Key words:** Speech Therapy - Communication - Vocal Imposition.

**6739. Auditory training controlled acoustically in individuals after Chronic Subdural Hematoma**

Aline Priscila Cibian, Daniela Gil, Cyntia Barbosa Laureano Luiz  
*Universidade Federal de São Paulo*

**Introduction:** As clinical manifestations of an individual with Chronic Subdural Hematoma are behavioral and cognitive changes, headache and memory complaint. Auditory training increases the possibility of intervention in this pathology.

**Objective:** To verify the effectiveness of auditory training controlled acoustically in post-surgical patients of Chronic Subdural Hematoma.

**Methods:** Five individuals, aged 52 to 64, with alteration in the physiological mechanisms of binaural interaction, selective attention and temporal processing were submitted to an Auditory Training program, organized in nine sessions, lasting 50 minutes each. They performed the behavioral evaluation of the auditory processing before and after intervention and answered the questionnaire Scale of Auditory Behaviors.

**Results:** All subjects showed improvement in post-training behavioral tests. In speech with noise, the average in the pre-training was 68.80% in the right ear and 66.40% in the left ear and the post training, was 76.00% in both ears. In dichotic alternated dissyllables, the average in the pre-training was 82.00% in the right ear and 77.50% in the left ear and post-training, 90.00% in the right ear and 87.00% in the left ear. In Random Gap Detection, the average was from 92 to 68.5 milliseconds. In the Frequency Pattern, the average increased from 30.62% to 51.32%. In Masking Level Difference, the average was 4.4 to 8 dB. In the questionnaire, the average of the total score was from 29.50 to 41.80.

**Conclusion:** The training was effective for individuals after Chronic Subdural Hematoma, evidencing improvements in behavioral tests and reduction of communicative difficulties measured by the questionnaire.

**6741. Electrophysiological evaluation of auditory processing in individuals after chronic subdural hematoma**

Aline Priscila Cibian, Daniela Gil, Cyntia Barbosa Laureano Luiz  
*Universidade Federal de São Paulo*

**Introduction:** Chronic Subdural Hematoma is one of the most common forms of intracranial hemorrhage, usually after cranial trauma.

**Objective:** To verify auditory behavior and electrophysiological responses in individuals after surgical treatment of Chronic Subdural Hematoma.

**Methods:** Eight individuals, aged 29 to 64 years. They performed behavioral evaluation of auditory processing using the speech with noise, dichotic alternated dissyllables, Random Gap Detection, Synthetic sentence identification, Frequency Pattern and Masking Level Difference tests. The electrophysiological evaluation was composed by the Evoked Potential of Long Latency, tonal stimuli and verbal stimuli (syllables).

**Results:** The average in the speech with noise was 70.00% in the right ear and 68.50% in the left ear; dichotic alternated dissyllables, 83.12% in the right ear and 75.60% in the left ear; Random Gap Detection, average of 94.37 milliseconds; Synthetic sentence identification (-15), 36.20% in the right ear and 36.20% in the left ear; Frequency Pattern, average of 38.62% in the appointment modality and Masking Level Difference with a mean of 5.25 dB. In the Evoked Potential of Long Latency, nonverbal stimuli, only 25% presented P3 wave in the right ear and 12.5% in the left ear. In the Evoked Potential of Long Latency with verbal stimuli, 50% had the presence of P3 wave in both ears.

**Conclusion:** Chronic Subdural Hematoma may interfere with the neurological processing of the information received, causing behavioral and electrophysiological changes in auditory processing.

**6742. Evaluation of the Virtual environment "How do I breathe?"**

Daniela Cristina Monfredini, Ana Paula Fukushiro, Gabriele Ramos de Luccas, Gíedre Berretin Felix  
Faculdade de Odontologia de Bauru - Universidade de São Paulo (FOB/USP)

Virtual learning environments (VLE) aim to assist distance education activities on diverse subjects. Using simple and illustrative language, the elaboration of the "How do I breathe?" VLE focused on breathing function, since it is essential to life maintenance. Thus, knowing its functioning and understanding preventive measures of respiratory diseases can assist individual's quality of life.

**Objectives:** To evaluate the efficacy of the "How do I breathe?" VLE regarding the content understanding, in adolescents from 13 to 15 years old.

**Methods:** Eighteen students from a public elementary school of Bauru-SP, Brazil, answered a questionnaire with 20 general questions on respiratory function. Two days later, the weblog <https://comoeurespiro.wordpress.com> was presented to the students, who had free access and were invited to perform the reading of all content. Following, the same questionnaire was reapplied. Data were descriptively analyzed, comparing the answers to the questions, before and after access to the content.

**Results and Conclusion:** Pre-access to survey content showed that 50% of adolescents thought oronasal breathing was correct, 50% believed there was no relationship between breathing and craniofacial growth, 71% believed oral breathing is expected in children, and only 11% believed oral breathing could bring school difficulties. After access to the weblog, these proportions changed to 28%, 6%, 33% and 89%, respectively, for the same questions.

The VLE assisted in the learning of adolescents and aroused curiosity about breathing. Long-term retention of knowledge will be verified with the application of the questionnaire three months after accessing the content.

**Key words:** Telehealth; Virtual environment; Breathing.

**6750. Childhood Vestibulopathies: educational material for parents**

Francielle Martins Ferreira, Gláucia Gonçalves Raineri, Maria Julia Ferreira Cardoso, Bárbara Camilo Rosa, Jerusa Roberta Massola de Oliveira  
Faculdade de Odontologia de Bauru - Universidade de São Paulo

**Introduction:** Childhood vestibulopathies result from a mixture of information from the three different sensory systems. Statistics indicate that at least 1% of the consultations of a child neurology service are due to vestibular disorders. However, the difficulty in recognizing the symptom makes the diagnosis complicated. Therefore, it is extremely important to carry out guidelines about this pathology that can often go unnoticed.

**Objective:** To make an educational material for parents in folder format about the main symptoms presented by children with vestibulopathy.

**Results:** The folder was designed to have an appropriate extension composed of 2 pages in order to not be exhaustive. The language and vocabulary used in the educational material were intended to meet the target audience's understanding and for greater content retention, illustrations and examples of symptoms were provided.

**Conclusion:** The recognition of infantile vestibular disorders and their main symptoms are essential for the early diagnosis and prevention of the complications that occur in the development of the child. In this sense, educational materials that are intended to inform and guide parents should be developed in order to alert the existence and difficulty of recognition of this pathology, in order to support early diagnosis, thus revealing important instruments for health promotion.

**6752. Analysis of the Brazilian dizziness handicap inventory questionnaire to detect vestibulopathies**

Gláucia Gonçalves Raineri, Jerusa Roberta Massola de Oliveira, Bárbara Camilo Rosa, Francielle Martins Ferreira, Maria Julia Ferreira Cardoso  
Universidade de São Paulo - Hospital de Reabilitação de Anomalias Craniofaciais

**Introduction:** The Brazilian Dizziness Handicap Inventory is the only questionnaire translated into Portuguese, to date, to evaluate the quality of life impairment in patients with dizziness.

**Objective:** To qualitatively analyze the accuracy of this questionnaire to detect vestibular disorders.

**Methodology:** A descriptive study was carried out by means of data analysis of 25 patients attended at the Hospital de Reabilitação de Anomalias Craniofaciais- Univerdade de São Paulo, aged 23 to 83 years, qualitatively correlating the results of Vectonistagmography with the score obtained in the Dizziness Handicap Inventory Brazilian.

**Results:** Regarding to Jacobson and Newman (1990) classification for the questionnaire, 16% were mild, 56% moderate and 28% severe. Only one patient with mild classification did not present alterations in the vestibular exam. Of the patients with moderate and severe classification, 86% presented some type of vestibular alteration. In addition, 14% of patients with the same classification did not present alterations to Vectonystagmography. However, because of the Vectonistagmography evaluation of the lateral semicircular canals, the other semicircular canals and / or otolithic organs may still be involved.

**Conclusion:** The questionnaire showed accuracy to detect vestibular disorders. However, it was verified that it was not effective for light classification, questioning the influence of the process of labyrinthic compensation. Thus, the questionnaire has proved to be a complementary tool that can help in the diagnosis of some pathologies.

**6753. Distance education in the context of language and hearing sciences: systematic review**

Francielle Martins Ferreira  
Faculdade de Odontologia de Bauru - Universidade de São Paulo

**Introduction:** Distance education is a very common practice in several educational areas, however, it is what is perceived the low number of studies that evaluate such practices.

**Objectives:** The objective of this study was to perform a systematic review, to investigate the profile of studies that use Distance Education in the field of speech therapy that presented an evaluation of the effectiveness of the procedure used; Also, to investigate how the virtual interventions proposed by these studies have been effective and how a tool is being evaluated.

**Data Synthesis:** As a source of study, they were used as electronic and international public access databases. SciELO, Pubmed, LILACS, BDTD, 28 papers were analyzed, which included the inclusion criterion for belonging to at least one of the areas of Speech Therapy and to present an evaluation of the effectiveness of the tool used. It was found that the analyzed studies consisted of the following categories: origin in different countries and research groups, based on populations, heterogeneous objectives and methodological procedures, locality, method of evaluation and data on an effectiveness of the intervention performed, however. Greater effect of the employee.

**Conclusion:** A response to their tools for disseminating information and contributing to health education. The studies analyzed indicate that as Virtual interventions in Speech Therapy topics aimed at community empowerment have been effective.

**Key words:** Distance education. Language and Hearing Sciences.Teleducation.

**6756. Littlears self-evaluation questionnaire and language category classification in cochlear implant users**

Júlia Maia Corsato, Daniela Gil  
Universidade Federal de São Paulo - Escola Paulista de Medicina

**Introduction:** Hearing is a sensorial function related to communication that assists language and speech development.

Auri-oral therapy is a facilitator for the child's development, aiming to oral language acquisition, prioritizing hearing input and family involvement in therapeutic process. Careful counseling to patients' parents is important to provide consolidation of concepts presented during therapy.

**Objective:** To characterize the performance of children that use cochlear implants through a self-evaluation questionnaire and to compare to Language Category Classification.

**Methods:** The study was performed at Educational Audiology Ambulatory in São Paulo Federal University. The LittlEars questionnaire was applied to parents and the children's therapists performed Language Category Classification.

**Results:** Nine children undergoing therapy for thirty-three months on average (aged two to five years old) were included in the study. Cochlear implant had been used for sixteen months on average. Patients scored twenty-six points in LittlEars on average, ranging from seventeen to thirty points. Language Category ranged from one to three, with an average of two.

**Conclusion:** Patients presented Language Category Classification consistent with isolate word emission and LittlEars responses revealed that they were able to react, imitate, localize sounds and comprehend simple commands.

#### 6761. Weblog "how do I breathe?" - Statistical data of access

Gabriele Ramos de Luccas, Giédre Berretin Felix, Ana Paula Fukushiro

Faculdade de Odontologia de Bauru - Universidade de São Paulo

**Introduction:** It's important to disseminate information about breathing function for the population because of the changes and consequences resulting from oral breathing. Thus, in 2014, the weblog "How do I breathe" was written for the young public, gathering information about the breathing function. The weblog is available for access at: <https://comoeurespiro.wordpress.com>.

**Objective:** to analyze the statistical data of access to the weblog "How do I breathe?" between November 2014 and April 2017.

**Methods:** to analyze the statistical data of access to the weblog, it was used the free tool Google Analytics, which shows the number of views; countries with the highest number of accesses; search terms used; most accessed pages and comments received.

**Results:** statistical analysis showed an increase in the number of visits from August 2015, countries with the highest number of accesses were Brazil, the United States and Portugal; the search terms used were unknown or related to oral breathing; the most accessed pages were related to the definition and causes of oral breathing and 17 comments addressed doubts about oral breathing, personal reports and compliments to the weblog.

**Conclusion:** in the period between November 2014 and April 2017 there was a significant increase in the number of views and accesses of other countries; the search terms used by the users and most accessed blog pages indicated interest in the definition and in the causes of oral breathing and also the users used the option of comments to send compliments and doubts.

**Key words:** Oral breathing. Internet. Telemedicine.

#### 6770. General vocal deviation degree in individuals with signs and symptoms of laryngopharyngeal reflux

Ana Julia Sartori, Glauycia Madazio, Mara Behlau, Felipe Moretti, Regis Dewes

Centro de Estudos da Voz e Rd Clínica Médica

**Introduction:** Evaluations and specific exams help to identify the signs as well as the vocal and laryngeal symptoms from the laryngopharyngeal reflux-LPR.

**Objective:** Verify general vocal deviation degree, vocal symptoms and reflux index in patients with suggestive clinical diagnosis of LPR.

**Methods:** 100 adults who showed suggestive signs of LPR in nasofibrolaryngoscopy, with no respiratory, metabolic and/or psychiatric/psychological alterations; who responded the Voice Symptoms Scale-VoISS and the Laryngopharyngeal Reflux Symptoms

Index-LPRS were submitted to vocal recording for a perceptive-auditory analysis, performed by a speech-language pathologist with excellent intra-rater reliability (0.975), considering 20% of voice repetition.

**Results:** From the 100 evaluated voices, 34 were classified as adapted and 66 deviated; from which, 53 were predominantly rough and 43 showed a slight vocal deviance. For VoISS, issues about clearing the throat obtained higher averages (2.25 and 2.14); in the subjects with adapted voices the average was below the minimum score of 16 points (11.29) and with deviated, above (17.04). In LPRS, clearing the throat issue had higher average (3.20). Statistical differences were found in two groups of vocal characteristics in VoISS, rough-adapted (0.0021) and tense-adapted (0.0075); and in one group in LPRS, rough-adapted (<0.001). There was a moderate correlation (0.516) with clearing the throat in protocols.

**Conclusion:** Most of the subjects with LPR showed vocal deviation measured clinically. Individuals with deviated voices referred a higher occurrence of vocal symptoms, vocal handicap and unpleasant sensations related to LPR, which were measured through the VoISS and LPRS.

**Key words:** Laryngopharyngeal Reflux; Dysphonia; Signs and Symptoms.

#### 6780. Characterization of vocal production of children using electronic devices applied to deafness

Ana Carolina França Pironi, Priscila Morales Andreazzi, Ana Cláudia Mirândola Barbosa Reis, Aline Epiphonio Wolf

Faculdade de Medicina de Ribeirão Preto - Universidade de São Paulo (FMRP-USP)

**Introduction:** during the process of voice maturation, the ability to regulate the use of voice in different situations, directly related to auditory feedback, is developed. The lack of such feedback is primarily responsible for changes in vocal quality and speech production in hearing impaired individuals.

**Objective:** to characterise vocal production of children with hearing impairment using electronic devices applied to deafness and to relate to the variables gender and type of electronic device used.

**Methods:** 12 children of both sexes, aged between five and 17 years and 11 months, were divided into two groups: one with children using a Sonoran Amplification Apparatus and the other with children using Cochlear Implant. Perceptual-auditory and acoustic analyses were performed.

**Results:** There was a presence of hoarseness, tension, breathiness, instability, imprecise articulation, pitch, loudness and resonance alterations, and there was no statistical evidence of the association between these aspects and gender or type of device used. There were no statistical differences in the values of the fundamental frequency between the groups or statistical associations between such values with age, time of hearing deprivation and use of the electronic device or with the speech detection thresholds.

**Conclusion:** in this study, the presence of vocal alterations was not associated with the gender or type of electronic device used. The means of fundamental frequency did not differ between groups and were not associated with variables considered either.

**Key words:** Auditory Deficiency, Voice, Cochlear Implant, Hearing Aid.

#### 6783. Correlation between tasks and total score in brazilian dynamic gait index

Carlos Kazuo Taguchi, Julianne Pitanga Teixeira, Elida Pinto Costa, Lizandra Nunes Freitas, Allan Robert da Silva, Yannine Nery do Nascimento

Universidade Federal de Sergipe

**Introduction:** In senescence gait could be deteriorating, compromising functional capacity, autonomy and increasing risks to falls.

**Objective:** To analyze the correlations between the scores of the eight tasks and the final result in the Dynamic Gait Index - Brazilian version.

**Method:** Retrospective study approved by the Ethics and Research Committee (number 0197.0.107000.09). It was analyzed 223 DGI evaluations of socially active elderly, aged ranged from 60 to 85 years.

**Results:** Sixty two subjects presented an altered DGI (27.8%). It was verified the following

**Results:** Task 1 with 2.54; Task 2 with 2.32; Task 3 with 1.84; Task 4 with 2.0; Task 5 with 1.78; Task 6 with 1.9; Task 7 with 2.35 and Task 8 with 1.95 points. The statistical analysis indicated that T1 and T2 did not contribute to decrease the total score in the test. The worst performances occurred in Tasks 3, 5 and 6. There was a positive correlation between T1 and T2 ( $p = 0.37$ ); T1 with T8 ( $p = 0.26$ ); T3 with T4 ( $p = 0.42$ ); T3 with T5 ( $p = 0.25$ ); T4 with T5 ( $p = 0.33$ ) and T2 with T4 ( $p = 0.30$ ) and T7 ( $p = 0.20$ ). There was a negative correlation between T4 and T8 ( $p = -0.29$ ), and T6 was not correlated with another one.

**Conclusion:** It was conclude that tasks 3, 4, 5, 6 and 8 correlate with the final score of the DGI contributing to better or worse performance in the test.

#### 6786. Functional disorders as indicators for risks to falls in elderly

Carlos Kazuo Taguchi, Elida Pinto Costa, Julianne Pitanga Teixeira, Yannine Nery do Nascimento, Allan Robert da Silva, Lizandra Nunes Freitas

Universidade Federal de Sergipe

**Introduction:** In senescence degenerations in the nervous system and reduced ability to adapt and compensate the vestibular system carried changes in body balance increasing risk of falls.

**Objective:** To verify if balance and gait assessment can be used as a functional indicator of falls events in the elderly.

**Method:** Fifty-two elderly volunteers ,mean of 69.6 years ( $6.8 \pm$ ), was submitted to Brazilian Dynamic Gait Index (DGI) and Timed Up and Go (TUG) test.

**Results:** It was verified that 78.8% presented alterations in TUG and 38.4% in DGI. It was found that both the DGI and the TUG were sensitive to identifying the prediction of falls in the studied sample and that both tests showed a significant and negative association ( $p$  value = 0.009). There was no association between the DGI and age, however, the results point to a possible association of this variable with the TUG with  $p = 0.06$ . Studies point out that the process of identifying the elderly with risks for falls should not be based on a single validated instrument. The association between several scales may highlight elderly individuals who, apparently, do not have indicators, but may be within the contingent with future high risk for falls.

**Conclusion:** It was possible to verify that the gait was altered in an expressive portion and the functional balance was committed in the majority of the sample. Thus, it was possible to conclude that the DGI, and especially the TUG, showed as good functional indicators for balance and gait.

#### 6789. Speech perception and hearing aid benefit evaluation after fine tuning with speech mapping in Brazilian Portuguese

Carla Fonseca Moraes Tonelini, Maria Cecília Martinelli Iório, Luciana Garolla

Universidade Federal de São Paulo - UNIFESP

**Introduction:** The main goals of hearing aid fitting are to make soft sounds audible, average sounds comfortable and loud sounds tolerable. Real-ear measurement is the most objective test recommended to ensure appropriate speech amplification.

**Objective:** To evaluate the speech perception and perceived hearing aid benefit in adult hearing aid users pre and post fine tuning based on real-ear aided response by probe microphone with Speech Mapping in Brazilian Portuguese (SMBP).

**Methods:** 20 experienced hearing aid users (18 to 60 years old) presenting moderate to severe bilateral symmetrical sensorineural hearing loss were evaluated with the test Lists of Sentences in Portuguese (LSP) and the International Outcome Inventory for Hearing Aids (IOI-HA), pre and post fine tuning based on SMBP. Non-parametric tests were used for statistical analysis.

**Results:** There was significant improvement in speech perception after hearing aid fine-tuning based on SMBP. The LSP showed decreased threshold values of Sentence Recognition in Silence (SRTS) from 39.60dB to 34.41dB and signal to noise ratio (SNR) from 5.82dB to 3.34dB. The IOI-HA results revealed a statistically significant difference between pre and post fine tuning in the total score ( $p < 0.001$ ) with better scores for hearing aid usage, benefit, activity limitations and participation restrictions.

**Conclusion:** Real-ear measurements with SMBP can be seen as an opportunity to improve patient care and clinician satisfaction. Adults hearing aid users performed better on LSP and had greater scores on IOH-HA after having their hearing aids electroacoustically adjusted on the basis of Speech Mapping.

**Key words:** Hearing aids; Speech recognition; Benefit questionnaire.

#### 7705. Evaluation of intervention in adults and elderly with dizziness complaints

Luiza Diniz da Rosa, Ana Claudia Fiorini

Pontifícia Universidade Católica de São Paulo - Puc-Sp

**Introduction:** The complaint of dizziness is of high prevalence among adults and elderly and intervention strategies can bring beneficial results.

**Objective:** To evaluate the benefit of intervention in adults and elderly with dizziness complaints.

**Methods:** A prospective and longitudinal clinical study was carried out in a sample of 20 patients with dizziness, both genders and aged between 48 and 85 years. The sample were referred to vestibular rehabilitation by medical appointment and performed ten exercise sessions, based and adapted from the Cawthorne Protocol (1944) and Cooksey (1946). The evaluation of the benefit was done using the Dizziness Handicap Inventory (DHI), Geriatric Depression Scale (GDS) and Dizziness Quantification Scale (DQS), applied in three moments: before the intervention, in the 5th intervention session and after the Tenth session.

**Results:** 17 subjects (85%) had an improvement in the DHI score and 18 (90%) reported an improvement in the dizziness symptom. Although the three tests showed a decrease in the means at the three moments, interference of the intervention was observed only in relation to the DHI. Multiple comparisons were made adopting a global confidence coefficient equal to 90% to compare the DHI means between the three moments. The DHI averages at moments 1 and 2 were higher than at time of evaluation 3 (CI: -18.62; -0.98).

**Conclusions:** It was observed greater benefit in the intervention with 10 sessions, when compared to 5 sessions. The DHI was an important instrument for evaluating the outcome of the interventions.

**Key words:** Dizziness; Rehabilitation; Postural Balance.

#### 7706. High frequency hearing thresholds in adults: a normative study

Sheila Jacques Oppitz, Michele Vargas Garcia, Luize Caroline Lima da Silva

Universidade Federal de Santa Maria

**Introduction:** High Frequency Audiometry is an ally in the monitoring of hearing and in the early detection of hearing loss, allowing the verification of alterations in high frequencies, before occurring impairment of tested frequencies in the conventional audiometry.

**Objective:** to evaluate hearing thresholds in high frequencies, seeking to generate reference values from 9 to 18kHz.

**Methodology:** This study was prospective, quantitative and transversal, with convenience sample. The sample was composed of 53 subjects, aged between 18 and 58 years, mean age of 26.2 years with auditory thresholds within the standards of normality from 250 to 8000 Hz and normality of results in acoustic immittance measurements. For the research of the high frequencies was used the equipment of model AS10 HF Interacoustics with headphones of type KOSS and with thresholds expressed in dBPNPs.

**Results:** The subjects' mean response was 15.71dB at 9kHz; 15.52dB at 10kHz; 8.41 at 11kHz; 6.92dB at 12kHz; 13.79dB at 13kHz; 29.32dB at 14kHz; 35.57dB at 15kHz; 46.91dB at 16kHz; 60.68dB at 17kHz and 71.73dB at 18kHz.

**Conclusion:** Preliminary data from this study showed that from 14kHz there is an increase in the mean threshold in adult individuals with thresholds up to 8kHz within normality standard, in the studied equipment.

**Key words:** Hearing, Adult, Auditory threshold, Audiometry.

#### 7707. Threshold of high frequency and complain of speech understanding in noise in normal hearing individuals

Sheila Jacques Oppitz, Luize Caroline Lima da Silva, Michele Vargas Garcia  
Universidade Federal de Santa Maria

**Introduction:** High frequencies are directly related to the processing of acoustic information, they are important for consonant discrimination and for speech recognition. Individuals with a higher intensity demand in these frequencies would have difficulty in highlighting the noise signal, presenting a change of understanding in noisy environments.

**Objective:** to analyze the correlation between thresholds in high frequency audiometry in normal hearing individuals with and without complaints of speech understanding in noise.

**Method:** This study was prospective, quantitative and cross-sectional, with convenience sample. Twenty-two subjects, aged between 18 and 58 years, and eleven individuals with complaints of speech understanding in noisy environment, mean age of 28.9 years, and 11 in the group without mean complaint of age of 25.7 years with auditory thresholds within normality standards from 250 to 8000 Hz and normality of results in acoustic immittance measurements. For the research of the high frequencies was used the equipment of model AS10 HF Interacoustics with headphones of type KOSS and with thresholds expressed in dBNPS.

**Results:** The mean responses of the subjects were for the CG: 6.81dB at 9kHz; 10.67dB at 10kHz; 6.36dB at 11kHz; 1.13dB at 12kHz; 5.90dB at 13kHz; 14.31dB at 14kHz; 17.26dB at 15kHz; 30.68dB at 16kHz; 44.77dB at 17kHz and 63.86dB at 18kHz. The mean responses for the EG were: 22.26dB at 9kHz; 22.04dB at 10kHz; 15.45dB at 11kHz; 17.27dB at 12kHz; 28.86dB at 13kHz; 42.04dB at 14kHz; 49.08dB at 15kHz; 58.40dB at 16kHz; 72.04dB at 17kHz and 63.86dB at 18kHz.

**Conclusion:** Preliminary data from this study showed that normal hearing individuals with complain of speech understanding in noise have an increase in the average of high frequencies intensity bilaterally.

**Key words:** Hearing, Adult, Auditory threshold, Audiometry.

#### 7708. Annoyance related to noise exposure in a military Air Patrol unit

Vera Cecilia Gelardi, Ana Claudia Fiorini  
Pontifícia Universidade Católica de São Paulo - PUC-SP

**Introduction:** Noise annoyance is characterized by negative feelings like discomfort, nervousness and irritability.

**Objective:** To verify annoyance related to noise exposure in a military Air Patrol unit (GRPA) in the city of São Paulo.

**Method:** Observational and cross-sectional survey was carried out in a sample of 50 military policemen from an Air Patrol unit (GRPA). Procedures for data collection included anamnesis, and an adapted questionnaire on health effects from noise, based on Ferreira (2013). The statistical analysis started with the application of chi-square tests of independence and the following outcome was "Does ambient noise annoy you?". The significance level for each test was equal to 10%, to select variables for the logistic regression model.

**Results:** Most the professionals (84%) considered the aircraft noisy and 88% classified this noise as intense. Concerning noise exposure complaints, the outcome showed a significant association ( $p < 0.05$ ) with the following variables: stress, lack of attention causes bad humor, irritability, fatigue, disrupt reasoning and work efficiency. The logistic regression analysis indicated that when the individual reports

stress, the chance of presenting annoyance is 11 times higher (odds ratio = 11.33).

**Conclusion:** The militaries consider the work environment noisy and present a high occurrence of non-auditory complaints. The annoyance is statistically associated with the noise in the workplace and with several health effects resulting from this exposure. Noise is one more stressor in the working environment of the military policemen and can have irreparable consequences on the lives of these workers.

**Key words:** noise, annoyance, military.

#### 7709. Event-related potential of disfluent children

Yara Bagali Alcantara, Anna Caroline Silva de Oliveira, Ana Claudia Frizzo, Breno Elisa Lucas, Dayse Mayara Oliveira Ferreira, Cristiane Moço Canhetti de Oliveira, Letícia Sampaio de Oliveira  
UNESP - FFC Faculdade de Filosofia e Ciências - Campus de Marília/SP

**Introduction:** Neurophysiological speech processing requires temporal coordination between motor abilities and cognitive processing. Mismatch Negativity is an automatic response of the brain, which reflects the central processing and perception of subtle acoustic differences during an auditory discrimination task.

**Objective:** to analyze and evaluate measures of the Mismatch Negativity event-related potential of disfluent children.

**Methods:** The study respects ethical concepts of Resolution 466/2012/CNS/MS/CONEP (55845216.7.0000.5406). Twelve preschoolers with developmental stuttering (between 3 and 6 years and 11 months) participated. Initially, the Brainstem Auditory Evoked Potential was performed evaluating auditory pathway integrity and after that, the Long Latency Auditory Evoked Potential to obtain the Mismatch Negativity. The electrodes were positioned on the ears, vertex and forehead. The tone-burst acoustic stimulus at 80dBnHL was randomly presented by the computer for frequency discrimination of 1000Hz (frequent stimulus) and 1500Hz (rare stimulus) - odd-ball paradigm. The individuals remained unresponsive to the stimulus and a distracting visual stimulus was presented during the examination.

**Results:** Mean values of latency and amplitude, respectively, obtained for the right ear were 220.48 ms and -280  $\mu$ V and for the left ear were 238.81 ms and -3.47  $\mu$ V, appropriate values according to the values described in the literature for the studied age group. The latency measures were longer on the left, however, in the comparison between the measurements of the ears there was not significant difference between them ( $p > 0.05$ ).

**Conclusion:** Mismatch Negativity showed good auditory discrimination ability in disfluent children.

**Key words:** Stuttering; Auditory Evoked Potentials; Mismatch Negativity.

#### 7712. New lists of dichotic sentences and dichotic digits test in adults with normal hearing

Maristela Julio Costa, Eliane Schochat, Sinea Neujahr dos Santos  
Universidade Federal de Santa Maria

**Introduction:** Dichotic listening tests are considered by way of the greatest power diagnosis between behavioral tests of auditory processing.

**Objective:** to compare the results obtained with new dichotic sentences test (DST) and dichotic digits test (DDT) in adults with normal hearing. Materials and

**Methods:** the study was approved by the Research Ethics Committee under No.1.755.089. 102 subjects in the age range from 19-44 years were evaluated by audiometry, dichotic digits and dichotic sentences tests. The results of the binaural stage were analyzed and divided into: Group 1: DDT = 100% in one ear and the other 95%; Group 2: DDT between 95%, 97.5%, and GROUP 3: DDT < 95%.

**Results:** 76 subjects presented normal hearing in the frequencies of 250 to 8000 Hz, 72 with responses to DDT  $\geq$  95% (mean=99.51%/OD and 98.43%/OE) and 4 with answers to DDT  $<$  95% (mean=72.5%/OD and 55%/OE). GROUP 1: average in the DST/OD=93.83% and DST/OE=83%, with a 10% difference between the ears; GROUP 2: average in the DST/OD=88.23% and TSD/OE= 76%

with a 12.23% difference between ears; GROUP 3: average in the TSD/OD=72.5%, and DST/OE=55%, with a 17.5% difference between ears.

**Conclusion:** the association between the results obtained in the DDT and the DST has been verified, indicating that the higher the rate of errors in DDT, the worse the performance of individuals in the DST as well as the greater difference between the ears and the variability in the results.

**Key words:** dichotic listening; processing disorders; dichotic sentences.

#### 7713. To characterize an association between breastfeeding and oral habits

Gabriela Pereira da Silva, Maria Cristina de Almeida Freitas Cardoso, Lisiâne de Rosa Barbosa, Fabiana de Oliveira, Nadini Cristina Marins Martinez, Nicole da Costa Filikoski

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Breastfeeding and better conditions of the sensorimotor-oral system. At the moment that this natural stimulus loses priority as a form of feeding, it can occur in the installation of the oral deleterious habit.

**Objective:** To characterize an association between breastfeeding and oral habits.

**Methods:** a cross-sectional, descriptive, prospective study carried out in the period of April to August 2015. The study for the occurrence of oral habits in children attended at a SUS outpatient clinic in a hospital in southern Brazil. A sample for random, composed of parents and / or responsible for children from 0 to 6 years of age who are waiting to be attended outpatient clinic, and that they are fed exclusively by oral route. The data collection was elaborated based on a structured questionnaire elaborated for basic researches in the literature. The level of significance was set at 5% ( $p \leq 0.05$ ).

**Results:** Among the 117 children studied, a prevalence of breastfeeding was 92 (78.6%). The use of bottle feeding was evidenced in 94 (80.3%) of the children and pacifier use was identified in 71 (60.7%) of the children studied. There was a significance of 72.3% between an association of children who received breastfeeding and use of oral habits, both a bottle and a pacifier.

**Conclusion:** Through a study, it was possible to verify that it is a relevant association, it is not what is related to breastfeeding and the occurrence of the use of deleterious oral habits.

**Key words:** breastfeeding; habits; speech therapy; child.

#### 7714. Immediate influences of plantar asymmetry on stomatognathic functions

Alice Stahl Gaido, Debora Beviláqua Grossi, Ana Izabela Sobral de Oliveira, Cláudia Maria de Felício, Denny Marcos Garcia

Faculdade de Medicina de Ribeirão Preto - Universidade de São Paulo

It is still controversial whether posture and also plantar sensory information can influence the dynamics of the stomatognathic system.

**Objective:** To investigate whether a plantar interference causes immediate effects on chewing and swallowing.

**Methods:** The study was approved by the institutional ethics committee. Twenty subjects (13 women and 7 men, mean age:  $23.6 \pm 4.3$  years), without any type of pain, in general good health, oral and full natural dentition participated in the study. Surface electromyography of the masticatory muscles was made during unilateral, left or right, chewing of pre-softened sugarless gum, and of the suprathyroid muscles during continuous swallowing of water (100 mL). The records were performed without plantar disturbance and with plantar interference, created by the use of a 10 mm thick wedge, placed in the posterior region of the right or left foot. Friedman test was applied in order to compare the three conditions ( $P < 0.05$ ).

**Results:** Compared to the without interference condition, only left plantar interference produced significant changes, such as increased masticatory frequency in left unilateral mastication ( $1.24 \times 1.37$ ) and decrease in swallowing velocity ( $788.5 \times 704.75$ ) with increased duration ( $0.60s \times 0.63s$ ). All with  $P < 0.05$ . No differences were observed between the conditions in other parameters.

**Conclusion:** In healthy subjects, only plantar interference placed on the left caused immediate effect on the temporal aspects of chewing and swallowing. These effects may be related to the predominant activation of the left hemisphere during the preparatory and oral phase of the swallowing.

**Key words:** Mastication, Deglutition, Electromyography.

#### 7717. Use of Digital Games in Orofacial Myofunctional Therapy: Preliminary Study

Silvana Bommarito Monteiro, Trícia Campos Araújo, Ligia Quaresma Cardoso, Bruno Tachinardi Andrade Silva, Maria Thereza Mazorra dos Santos, Mara Behlau

Centro de Estudos da Voz - CEV

**Introduction:** The technology created has aided the clinical practice of speech therapy using computer programs that are low cost and easy to use. Within the technology are digital games, that motivate and enable the child to overcome challenges and promote learning with the aid of playful activities, making rehabilitation goals more certain.

**Objective:** To evaluate the use of FOFUUU digital games as supporters in Orofacial Myofunctional Therapy.

**Methods:** A total of 19 computerised games were developed with the purpose of promoting muscular training and speech production in a playful manner for patients between 3 to 9 years of age, with a diagnosis of oral respiration and the presence of sismatism. The games provide tone training and lip muscle mobility, increased direction and control of airflow through the oral cavity targeting speech, and increased velopharyngeal sphincter mobility. The games were used with 8 patients over 10 sessions of Orofacial Myofunctional Therapy, where the results were recorded and the opinion of the children about their use were obtained.

**Results:** There was interest and motivation to perform the exercises from all the patients; improvement of lip and tongue muscle tone and control of airflow production during speech, mainly for the production of fricative phonemes /f/, /s/, /ʃ/ in most cases.

**Conclusion:** The games provided the motivation to perform Orofacial Myofunctional exercises and consequently functional use in speech, allowing established goals to be achieved with greater ease.

#### 7718. Speech therapy counseling in group: effects on symptom reduction

Rúbia Soares Bruno, Rodrigo Ambonate Lopes, Vitor Cantele Malavolta, Quemile Pribs Martins, Michele Vargas Garcia, Sheila Jacques Oppitz

Universidade Federal de Santa Maria

**Introduction:** Tinnitus is a symptom that brings about the subjects' quality of life and is defined as the conscious perception of a sound, without the existence of an external sound source. It is multifactorial, and therefore, its treatment is also diversified. Among them, there is the speech therapy counseling, which is usually associated with other therapies, such as sound enrichment. However, this study sought to apply the counseling in isolation and to verify its effectiveness through the Visual Analogue Scale.

**Objective:** To verify the efficacy of speech therapy counseling in group in reducing the perception of tinnitus.

**Methods:** This research was prospective and longitudinal. The sample was composed for convenience according to the demand of the audiology service at the period of the study. Ten subjects of both genders, three (30%) of the male gender and seven (70%) of the female, with complain of unilateral or bilateral chronic tinnitus, with or without hearing loss, metabolic, emotional, muscular and eating changes and body imbalances, as well as performing physical activities and sleep changes. The Visual Analogue Scale was applied, and then, five speech therapy counseling sessions were performed with duration of one hour and 30 minutes each, approaching themes related to the demystification of tinnitus, sleep quality, feeding, muscle, metabolic issues and the importance of physical activities. After the sessions, the scale was reapplied.

**Results:** The mean age was 61.3 years. In the application of the Visual Analogue Scale before and after, four (40%) participants presented ten score pre-counseling; in the re-evaluation they passed to zero, two, three and four. One participant (10%) passed from nine score to zero score. Two (20%) participants with eight score pre-counseling passed for zero and four score. Three (30%) presented a seven score pre-counseling passed to two, four and six.

**Conclusion:** Speech therapy counseling in group was effective in reducing the perception of tinnitus.

**Key words:** Hearing, Adult, Tinnitus, Counseling.

#### 7719. Ponto system for congenital aural atresia patients: audiological and speech perception results

Tyuana Sandini da Silveira Sassi, Sandra Elisa Rossetto Agra, Luiz Fernando Manzoni Lourencone, Rubens Vuono de Brito Neto, Valdéia Vieira de Oliveira, Juliana Nogueira Chaves, Rosicler Moreno Castanho Hospital of Rehabilitation of Craniofacial Anomalies, University of São Paulo

**Introduction:** The Ponto system uses an osseointegrated titanium implant to propagate sound directly to the inner ear through the skull with greater comfort for the individual with ear malformation.

**Objective:** To evaluate the results of the audiological and speech perception tests in pre and post-surgical conditions.

**Methods:** The study was developed in the Hearing Health Division of the Hospital of Rehabilitation of Craniofacial Anomalies, University of São Paulo. Six individuals with bilateral external and/or middle ear malformation, aged 18 to 28 years, with moderate and severe conductive and mixed hearing impairment participated. They were submitted to free-field tonal audiometry and speech perception tests (sentences) in quiet and noise in pre-surgical condition without and with conventional bone conduction hearing aid, with Ponto softband processor, as well as on activation of the implant and after one month of implant use.

**Results:** The mean tonal thresholds obtained with the implant were up to 12 dB better than those obtained with hearing aid. The mean sentence recognition threshold in quiet and the signal-to-noise ratio were, respectively, 55.2 dBNA and 3.2 dBNA without hearing aid, 30.2 dBNA and 1.8 dBNA with hearing aid, 26.7 dBNA and -3.4 dBNA with softband, 24.6 dBNA and -3.4 dBNA on activation of the implant and 16.4 dBNA and -5.6 dBNA after one month of implant use.

**Conclusion:** It was verified that Ponto provided an improvement both in the audiological and speech perception tests compared to conventional bone conduction hearing aid.

**Key words:** Aural atresia; bone anchored implants; Ponto.

#### 7720. An auditory brainstem potentials study on babies with congenital toxoplasmosis

Aline Almeida Fontes, Luciana Macedo de Resende, Roberta Maia de Castro Romanelli, Gláucia Manzan Queiroz de Andrade Faculdade de Medicina da Universidade Federal de Sergipe

**Introduction:** Congenital Toxoplasmosis is an infectious disease with a high prevalence in tropical countries. It is characterized by neurological, ophthalmological and auditory sequelae.

**Objective:** The aim of this study was to assess and describe the auditory brainstem responses (ABR) in infants aged 1 to 3 months diagnosed with congenital toxoplasmosis and to compare them with age-matched infants without infection.

**Methods:** This is an observational, analytical and cross-sectional study where an ABR research had been made on infants with congenital toxoplasmosis. For audiological testing, Transiently evoked otoacoustic emissions, clinical and automatic Auditory Brainstem responses were recorded.

**Results:** 100 children were part of the study, but the final sample had 76 children. Out of the 37 children with toxoplasmosis included in the study, 28 completed the neurological imaging evaluation, and of those, 3 (10.7%) had altered neurological examination. At the Auditory Brainstem Responses (ABR) evaluation, 2 children without toxoplasmosis and 10 children with congenital toxoplasmosis presented results that suggested alteration in the

maturational process of the brainstem auditory pathway.

**Conclusion:** It was possible to observe that 27% (n = 10) of the children were identified with possible unilateral change in the ABR, and that children with toxoplasmosis, between 1 and 3 months old, are 5 times more likely to present changes in the ABR than other children of the same age range without the toxoplasmic infection.

#### 7721. Oral language tests in children with obstructive sleep apnea

Camila de Castro Corrêa, Luciana Paula Maximino, Maria Gabriela Cavalheiro, Silke Anna Theresa Weber Botucatu Medical School - State University São Paulo, Unesp

**Introduction:** The oral language development in children and adolescents with Obstructive Sleep Apnea (OSA) is not clearly reported, but the literature suggests possible disorders.

**Objective:** To verify the oral language tests used in children and adolescents with OSA.

**Methods:** A bibliographical review was performed on the databases Lilacs, Pubmed, Scopus and Web of Science using the descriptors "Child Language" AND "Sleep Apnea Obstructive". Articles written on the central topic of OSA children/adolescents with focus on oral language assessment were included. The articles not available in full-text were also excluded. The articles were selected by reading the titles and abstracts, subsequently, analyzed in full-text. The included articles were analyzed regarding the test applied for oral language evaluation.

**Results:** 122 articles were localized, being six studies included. Two articles used the NEPSY test (to assess neuropsychological development, verbal comprehension and lexical skills); one used the Token Test (to verify the level of sensorimotor integration, processes of perception); one used the Peabody Test (to assess receptive vocabulary); one study used Standardized verbal fluency tests for Greek (encompassing semantic and phonological aspects), and one used the Kaufman Assessment Battery for Children Test (which verified the cognitive and neuropsychological skills, verbal fluency).

**Conclusion:** Was observed that the studies used several different instruments, investigating different levels and aspects of Language, jeopardizing the comparison or plotting of results. Identification of disordered abilities regarding the language aspect in the OSA population is important in order to perform early diagnosis and treatment, minimizing the impairments in the cognitive function.

#### 7722. Breastfeeding discontinuation factors in preterm infants

Sheila Tamanini de Almeida, Carla Thamires Rodriguez Castelli, Daniela Centenaro Levandowski

Universidade Federal de Ciencias da Saude de Porto Alegre

**Introduction:** Human milk is protective of several diseases, however, the immaturity of preterm and low lactation and inadequate management of food supplementation after hospital discharge may lead to interruption of breastfeeding.

**Objective:** To identify the factors favorable and unfavorable to the maintenance of breastfeeding in the first six months after discharge.

**Methods:** A prospective cohort study, whose sample was 50 premature hospitalized in a neonatal ICU, with hospital discharge from December 2015 to November 2016, and their mothers. Four evaluations of the breastfeeding and aspects of the mother-baby dyad related to the continuity or interruption of the practice were performed.

**Results:** The mean duration of breastfeeding was  $128.15 \pm 14.7$  days. There was an improvement in the pattern of breastfeeding after the first month of hospital discharge. However, the prevalence of exclusive breastfeeding in the sixth month was only 2%. There were significant associations between AM interruption and lower gestational age and lower birth weight ( $p < 0.05$ ). On the other hand, the presence of support for the mother reduced the chance of this interruption.

**Conclusion:** As favorable factor for the continuity of breastfeeding was the support to the puerperium with the care of the baby and as unfavorable factors the low weight and the lower gestational age. In addition, the findings point to a significant reduction in the duration of the breastfeeding of preterm infants after hospital discharge, highlighting the relevance of follow-up especially after the first month.

**Key words:** Breastfeeding; Prematurity; Weaning.

### **7723. Frequency of middle ear disorders in children before adenotonsillectomy**

Camila de Castro Corrêa, Silke Anna Theresa Weber, Adriana Bueno Benito Pessin  
Botucatu Medical School - State University São Paulo, Unesp

**Introduction:** Hypertrophy of palatine and pharyngeal tonsils is associated recurrent infections of the pharynx and the middle ear due to the communication by the Eustachian tube. OBJECTIVES: to observe the frequency of alterations in the middle ear in children before adenotonsillectomy.

**Methods:** 34 Children aged 4 to 11 years old realized tympanometry up to 2months before surgery of the tonsils (30 adenotonsillectomy, 4 adenoidectomy). Children with neurologic disease, genetic syndromes or craniofacial malformations were excluded. We compared otoscopy and tympanometry.

**Results:** 13 out of 34 children, mean age 7.38years (stD ± 2,06), showed alterations at tympanometry, as in three children bilateral tympanograms type B, in three unilateral tympanogram B, four unilateral tympanogram B in one ear and C in the other one, in two bilateral tympanogram C and in one unilateral tympanogram C. Five children were submitted to placement of ventilation tube at the same operating time, two with bilateral and three with unilateral tympanogram B. Ten children showed alterations at otoscopy, however five had normal tympanogram A. 24 children showed normal otoscopy but eight had tympanograms type B or C.

**Conclusion:** This study highlights the importance of evaluation of the middle ear including tympanometry as we observed a high frequency (38.24%) of alterations of tympanometry in children before adenotonsillectomy. Findings had a poor correlation to otoscopy.

### **7724. Metasyntax ability in children with obstructive sleep apnea**

Camila de Castro Corrêa, Silke Anna Theresa Weber, Dagma Venturini Marques Abramides, Luciana Paula Maximino  
Botucatu Medical School - State University São Paulo, Unesp

**Introduction:** Perception of syntax construction is fundamental for acquisition of reading and writing. OSA may influence neurocognitive development, thus delaying this ability. Aims: to evaluate the ability of syntax in OSA children.

**Methods:** OSA children 4 to 11 years old were evaluated by the Test of Syntax Consciousness: grammatical judgment (GJ), grammatical correction of agrammatical sentences (GC), grammatical correction of agrammatical and nonsemantic sentences (AS) and words categorization (WC); containing 55 items, each one pointing as 1, scored in accordance to their age. Children with altered psychological assessment or audiological alterations were excluded.

**Results:** 35 children, mean age 6.71 years, were included, 10% with mild, 45% moderate and 45% with severe OSA. Regarding Test of Syntax Consciousness, median total score was 34.34, distribution of scores was 15.25 GJ, 6.53 GC, 6.03 AS and 6.53 WC, with the lowest scores for GC. Thus, eight children showed low ability of metasyntax.

**Conclusion:** We observed a high frequency (22.86%) of linguistic disabilities in OSA children. More studies should include linguistic abilities and their development as part of possible neurocognitive delay in OSA children.

### **7727. Temporal Processing and P300 evaluation in children who undertook unilateral and bilateral tubes placement insertion**

Milaine Dominici Sanfins, Caroline Donadon, Leticia Reis Borges, Maria Francisca Colella dos Santos  
Faculdade de Ciências Médicas da Universidade Estadual de Campinas - UNICAMP

**Objective:** This study aimed to determine the long-term effect of otitis media in Temporal Processing and P300 in children who undertook bilateral and unilateral tubes placement insertion in childhood.

**Methods:** Temporal Processing evaluation (frequency pattern test - FPT and gaps- in-noise - GIN) and P300 were measure in 50 children, aged between 8 and 14 years old, with normal hearing and middle ear status at time of assessment. The children were divided into three groups. Bilateral Otitis Media group (Bil OM) consisted of 20 children who undertook bilateral tubes placement insertion and Unilateral Otitis Media group (Uni OM) consisted of 10 children who undertook unilateral tubes placement insertion. The control group (CG) consisted of 20 typically developing children with no documented history of otitis media.

**Results:** The results revealed significantly poorer responses ( $p<0.001$ ) for the FPT and GIN and increased latency of P300 ( $p=0.047$ ) in children with Bil OM compared to CG. Children who undertook unilateral grommet showed significantly difference in scores only for FPT ( $p<0.001$ ) compared to CG. The responses in the Temporal Processing tasks and P300 did not differ significantly between Bil OM and Uni OM groups.

**Conclusion:** The findings highlight the negative effects of otitis media in the central auditory system in children with middle ear disease history in childhood and subsequent bilateral or unilateral grommets insertion.

### **7732. Ototoxicity and automatic brainstem auditory evoked potential in neonates**

Andressa Ortiz Birck, Márcia Salgado Machado, Stefanie Kuhn Benvenutti, Eduarda Oliveira Cunha, Cristina Loureiro Chaves Soldner, Mateus Belmonte Macedo  
Universidade Federal de Ciências da Saúde de Porto Alegre/UFCSPA

**Introduction:** Hearing allows the acquisition of oral language and, therefore, a hearing loss may cause disturbances in communication and in their interpersonal relationships. The use of ototoxic drugs is one of the main risk factors for hearing loss. Neonates from intensive care units are usually submitted to their use, which can cause permanent sensorineural hearing loss due to damage to the cochlea and / or vestibule.

**Objectives:** To verify the relationship between the use of ototoxic drugs and results of Automatic Brainstem Auditory Evoked Potential in neonates coming from an intensive care unit.

**Methods:** This is a cross-sectional study carried out by analyzing the charts of 257 neonates from a neonatal intensive care unit who underwent auditory screening by examining auditory evoked potentials of an automatic brainstem.

**Results:** Among the 257 neonates who had their charts analyzed, 119 (60%) used ototoxic drugs. Of these, 15 (12.60%) neonates did not pass the automatic auditory brainstem evoked potential. There was a statistically significant association between the use of ototoxic medication and the failure of automatic brainstem auditory evoked potentials ( $p<0.05$ , Student's t-test).

**Conclusions:** It was found a relationship between the use of ototoxic medication and failure in the results of auditory screening performed through auditory evoked potentials of automatic brainstem. Thus, the need for evaluation and monitoring of neonates from intensive care units is confirmed, as advocated by national and international committees involved in the detection and intervention of childhood hearing impairment.

**Key words:** drug effects, newborn, hearing loss.

### **7733. Effects of cranial osteopathy in the auditory pathway by cortical level and in the symptom of subjects with chronic tinnitus**

Rúbia Soares Bruno, Vitor Canete Malavolta, Caio Alexandre Parra Romeiro, Carolina Fantinel Veloso, Thaís Doeler Algarve, Michele Vargas Garcia, Aron Ferreira da Silveira  
Universidade Federal de Santa Maria

**Introduction:** Cranial Osteopathy has been studied as a possible treatment for tinnitus, and Long Latency Auditory Evoked Potential is an exam that can be used to evaluate the auditory pathway physiology in auditory cortex, which may be related to tinnitus.

**Objectives:** To evaluate whether Cranial Osteopathy is capable of producing changes in the electrical signal at cortical level in the auditory pathway and in the perception of the symptom in subjects with chronic tinnitus.

**Methods:** Six subjects (three males and three females, mean age of 55,5 years),with more than six months of tinnitus complaints, normal hearing thresholds up to 8000 Hz, or hearing loss by tritonal average or in isolated frequency up to moderate degree. Weekly sessions of Cranial Osteopathy (eight in total; 30 minutes each), applying direct and indirect articular,muscular and myofascial techniques in auditory tube and fourth ventricle. The P3 potential was performed before (pre) and after treatment (post) with speech stimulus,being the syllable /ba/frequent(80%)and /di/ rare(20%) with intensity of 80dBnHL.

**Results:** There was an increase in average P3 latency (left ear pre 319ms and post 326ms; Right ear pre 314ms and post 346ms) and amplitude reduction(left ear pre 10mV and post 7mV; Right ear pre 10mV and post 8mV)in all individuals, and reduced perception of tinnitus in two (33%) subjects.

**Conclusion:** Cranial Osteopathy resulted in changes in the cortical activity of the auditory pathway, accompanied by a decrease in the perception of chronic tinnitus in two individuals.

**Key words:** Audiology, Auditory evoked potentials, Manual therapy, Osteopathic manipulation, Tinnitus.

#### 7734. Single session of cranial osteopathy: effects on the auditory pathway at encephalic trunk level and on the symptom in subjects with chronic tinnitus

Sheila Jacques Oppitz, Thaís Doeber Algarve, Carolina Fantinel Veloso, Caio Alexandre Parra Romeiro, Aron Ferreira da Silveira, Quemile Pribs Martins, Michele Vargas Garcia  
Universidade Federal de Santa Maria

**Introduction:** Cranial Osteopathy is an alternative in the treatment of tinnitus, and the Brain Evoked Response Audiometry is an exam that evaluates the physiology of the auditory pathway from the auditory nerve to the encephalic trunk in order to elucidate mechanisms involved with chronic tinnitus.

**Objectives:** To evaluate the effects of Cranial Osteopathy on the symptom and auditory pathway of individuals with chronic tinnitus from the auditory nerve to the encephalic trunk.

**Methods:** 25 subjects (13 females-52% -and 12 males -48%) were included(mean age of 50,5 years), with tinnitus for more than six months,normal hearing threshold up to 8000 Hz,or hearing loss by tritonal average or in isolated frequency up to moderate degree. Single session of Cranial Osteopathy (50 minutes)using joint,muscle and myofascial techniques. The Brain Evoked Response Audiometry evaluation was performed before(pre) and after(post) the Cranial Osteopathy session,with a click stimulus of 80 dBnHL for standardization of response among all individuals.

**Results:** There was a reduction in wave I absolute latency in all individuals (who reported improvement in the symptom) with normal hearing thresholds (Left ear pre 1.63ms and post 1.59ms; Right ear pre 1.55ms and post 1.52ms), Or with hearing loss (Left ear before 1.75ms and post 1.6ms; Right ear before 1.67ms and post 1.66ms).

**Conclusion:** Single session of Cranial Osteopathy modified the electric conduction in auditory pathway of the auditory nerve,in its distal portion,reducing the perception of symptoms in individuals with chronic tinnitus.

**Key words:** Audiology, Auditory evoked potentials, Manual therapy, Osteopathic manipulation, Tinnitus.

#### 7736. Auditory evoked potentials in Down syndrome

Letícia Gregory, Paulo Ricardo Gazzola Zen, Rafael Fabiano Machado Rosa, Bárbara Melissa Pereira da Silva, Priscila Sleifer  
Universidade Federal do Rio Grande do Sul

**Introduction:** Down Syndrome, or trisomy 21, is the most common genetic alteration in humans. The syndrome presents several features, including hearing loss and changes in the central nervous system, which may affect language development in children and lead to school difficulties.

**Objectives:** To describe and analyze the responses obtained in the long latency auditory evoked potential and cognitive potential in children and adolescents with Down Syndrome, compared with the control group.

**Methods:** Cross-sectional, comparative and contemporary study. The research group was composed by 23 children and teenagers, from 6 to 17 years old, with Down Syndrome confirmed through GTG-Banding karyotype. The control group consisted of 43 children and teenagers from 6 to 17 years with normal hearing thresholds confirmed by audiological field evaluation and presented no genetic changes. Participants had anamnesis, pure tone and speech audiometry, acoustic impedance and electrophysiological evaluation.

**Results:** Both groups revealed a predominance of female individuals. Average age did not differ between both groups. Children and adolescents with DS showed increased latency values of P1, N1 and P2 in both ears, when compared with the control group. The research of wave P3 could be carried out in only 6 children of the research group. These children showed increased latency when compared with the control group. In the analysis of the amplitude, the differences were not representative between both groups.

**Conclusion:** Children and adolescents with Down Syndrome have changes in long latency auditory evoked potential and cognitive potential.

**Key words:** Down Syndrome; Trisomy 21; Hearing; Event-Related Potentials.

#### 7737. Perception of musicians and music students over the use of hearing protectors

Débora Lüders, Kelly Regiane Ribeiro da Silva Martins, Adriana Betes Heupa, Evelyn Joice Albizu  
Universidade Tuiuti do Paraná

**Introduction:** The use of hearing protectors is one of the alternatives that help soften the risk that music at high intensity can cause to a musician's hearing.

**Objectives:** To analyze the perception of comfort reported by musicians who use specific hearing protectors.

**Methods:** 43 subjects participated in this study. They were divided into three groups: 11 music students; 7 musicians from a symphony orchestra, and a group of 25 musicians from a military police band. All participants were tested with Hi-FiTM Plug (E-A-R Plugs) hearing protectors during music practices. They also answered a questionnaire about the perception of comfort provided in relation to "attenuation," "pressure in the ear canal," "texture," "instrument handling," "placement," and "verbal communication." The participants also expressed the importance they gave to each of these aspects.

**Results:** The lowest score given by the students was to the "placement of the protectors" question. The "attenuation," "pressure in the auditory canal," and "texture" questions obtained a lower score among the orchestra musicians. The "instrument handling" and "verbal communication" questions obtained a lower score among the band musicians. For students, the most important aspect was "instrument handling." For the orchestra musicians, the most important aspects were "attenuation," "pressure in the auditory canal," and "verbal communication." And for the band musicians, the "sonorous attenuation" aspect was the most important.

**Conclusions:** The music students were the subjects that evaluated the hearing protectors the highest, followed by the band musicians, and lastly the orchestra musicians.

**Key words:** Musician; Occupational Exposure; Protective Devices.

#### 7738. Evaluation of cipermetrin ototoxicity in wistar rats

Mateus Belmonte Macedo, Eliane Dallegrave, Aléxia dos Reis, Eduarda Oliveira Cunha, Márcia Salgado Machado  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Agrochemicals are known for their impact on health and the environment, and represent a public health problem. Considering the lack of studies proving the specific mechanisms of

injury, as well as the difficulty of separating other concomitant factors, it is justified the need to develop an animal model study.

**Objective:** To evaluate the effects of inhaled subchronic exposure to the pyrethroid Cypermethrin on the cochlear function of Wistar rats.

**Method:** 34 male Wistar rats of 60 days, allocated in 3 groups: Control (N = 13, exposed to vehicle water), Positive Control for auditory lesion (N = 8, treated with 24mg / kg intraperitoneal cisplatin) and Experimental group (N = 13, exposed to cypermethrin - 1/10 of the median lethal inhalation dose). Inhalation exposure was performed for 4 hours, 5 times per week, for 6 weeks. The amplitude of distortion product otoacoustic emissions before and after the exposure period was evaluated in 4,6,8,10 and 12 kHz. Body mass and clinical signs were also analyzed. Data were presented as median and interquartile range and the groups compared by Kruskal-Wallis tests and t'Student test.

**Results:** There was significant reduction ( $p < 0.05$ ; Kruskal Wallis) in the amplitude of otoacoustic emissions in all frequencies tested in both ears.

**Conclusion:** Subchronic inhalation exposure to pyrethroid-type pesticides caused a significant reduction in the amplitude of otoacoustic emissions evoked by distortion product in the Wistar rats of the studied sample.

**Key words:** Ototoxicity; Agrotoxic; Organophosphorus; Animal Model.

#### 7742. Production analysis of the phonological processes of metathesis and epenthesis in phonologically disordered children

Amanda Faleiro, Kariny Zencke da Silva, Bárbara Luísa Simonetti, Amanda Lucas, Letícia Pacheco Ribas, Bruna Santos Sant'Anna, Iasmim Kasprczak

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** During the language acquisition, there are children who practice some mechanisms aiming to make the word-production easier. This act is called phonological process. Among these processes, there are the metathesis and the epenthesis ones, changing place occupied by a consonant in the word and/or adding a new syllable to it, respectively.

**Objectives:** It is aimed to verify tendencies among the phonological processes related in this study, collecting useful data to the speech therapy clinic practice.

**Methods:** The research was made under the analysis of secondary data from the VALDEF database (CEP 995.344), which is composed by evaluations of 130 children, both genders, reported with the Phonological Disorder. The ages vary between 5 and 10. The data has been statistically-analyzed through the GoldVarb-X software.

**Results and Conclusion:** Results showed that 49 children, 36 males and 13 females, practiced the processes the following way: metathesis - 23 children, epenthesis - 20 children and both processes - 6 children. It was verified that the phonological processes occurred in a higher number among targets with complex syllables formed by CCV or CVC, most of them followed by simple onset with plosive and fricative. Referring to the speech therapy clinic practice, results point to the use of targets composed by complex syllables followed by simple onset with nasal consonant to help in the management of these phonological processes.

#### 7750. Cochlear implant: profile of patients treated in a large hospital

Claudia Sobral de Oliveira Uchoa, Márcia Pinheiro Hortencio de Medeiros, Leonardo Sousa Costa, Juliana Mota Ferreira, Ilvana Lima Verde Gomes, Francisco José Maia Pinto, Emilia Kelma Alves Marques Hospital Geral de Fortaleza

**Objective:** The objective of this research was to examine the sociodemographic and clinical profile of patients operated in Cochlear Implant Program Fortaleza General Hospital, between June and July 2012. This study means contribute to a better direction as to the choice of candidate for the Cochlear Implant program, seeking a

better use of public resources, and promoting development the most satisfying possible for individuals with hearing loss.

**Methodology:** This is a documentary study, transversal and descriptive and therefore no contact with patients. The registration form for all 57 patients operated on served as a source for collecting data that supported the descriptive analysis of variables related to age, sex, type and degree of hearing loss, deafness moment (pre-lingual and post-lingual) and probable etiology. Were also considered data on origin, marital status, occupation and manner of service access Cochlear Implant HGF. The study was approved by the Ethics Committee of the institution, under the opinion in No. 38670 18/06/2012 and follows the provisions of Resolution 196/1996. Para general data processing the programs used were Microsoft Excell and Predictive Analytics Software, version 20.0.

**Results and Conclusion:** We conclude that the profile seen, is mostly composed of children with pre-lingual deafness of profound degree. It is expected that, based on the knowledge of the characteristics of the population served is possible to provide subsidies for improving hearing health policies now in force.

**Key words:** Cochlear implant. Hearing. Speech.

#### 7756. Hearing loss and metabolic alteration in maritime workers

Flavia Monique Cardozo da Silva, Volney de Magalhães Câmara, Maria Isabel Kós Pinheiro de Andrade, Moara Karoline S. Malheiros, Tatiana Rodrigues Garcia

Instituto de Estudos em Saúde Coletiva - Universidade Federal do Rio de Janeiro

**Introduction:** chronic exposure to noise, besides contributing to the emergence of noise-induced hearing loss can cause non-auditory effects, as metabolic and cardiovascular diseases that can impair the cochlear microcirculation and injure the sensory cells, reducing its motility.

**Objectives:** To determine the association between occupational exposure to noise and auditory and non-auditory effects in maritime workers.

**Methods:** a retrospective study of analysis in medical records of maritime workers, male, who underwent periodic exams between 2014 and 2016. Analyzed variables: age; Audiometry; occupational risk; offshore/onshore sector; laboratory tests. Research ethics committee: CAAE 62731416.5.0000.5257-17.

**Results:** Were evaluated medical records of 67 workers, 68.7% on-board work(offshore). The age ranged between 20-65 years, median 36 and average  $37.6(\pm 11.7)$  years. The main occupational risks were physical heat and noise(92.5%) and the chemicals, hydrocarbons and various chemical products(71.6%). A significant association was observed between on-board work and noise-induced hearing loss, mild(16.4%) and moderate(13.4%), with predominance in the left ear, frequency of 4,000 Hertz( $p=0.045$ ). Another significant association was observed between on-board work and modification of cholesterol ( $p=0.003$ ).

**Conclusion:** The findings of this study indicate an important relationship between on-board work, auditory alteration and hypercholesterolemia, which may potentiate the effects of noise exposure on hearing. The noise associated to the heat seems to be the most harmful agent in this work environment. Because they on-board work, these individuals are highly vulnerable to noise, because as the operation of boats is constant, the auditory function remains active even during sleep.

**Key words:** noise-induced hearing loss; hypercholesterolemia; maritime workers.

#### 7764. Hearing Complaints In The Early Childhood

Maria Cecília Bayer Pereira, Luciana Tavares Sebastião  
Universidade Estadual Paulista "Júlio de Mesquita Filho"- Câmpus de Marília

**Introduction:** Early Childhood refers to the period between gestation and the first three years of the child's life. Otologic problems that occur in the first years of the child's life can cause damages to

hearing and language development, justifying actions for early detection and treatment.

**Objective:** To analyze complaints related to hearing health, referred to by parents of children's Early Childhood Education.

**Method:** This study was performed in a municipal school of early childhood education in a county from paulista interior that serves children from 4 to 24 months. It was used an open and closed questions questionnaire, sent to be answered by mothers or guardians of the students. The study is part of the Health in School Program (HSP) actions and was approved by the Research Ethics Committee.

**Results:** 89 children from nine to 24 months participated in the study. Of the total number of participants, 56 (62.92%) children had undergone hearing assessment. Nine (10.11%) respondents expressed concern about their baby's hearing. Three (3.37%) perceived fluctuations in auditory responses. Twelve (13.48%) children required hospitalization in a Intensive Care Unit (ICU). Questioned about the occurrence of otological problems, 16 (17.97%) participants answered affirmatively.

**Conclusion:** The results demonstrated that children need attention and monitoring to the auditory behaviour development. Health education actions for parents aiming at knowledge construction about children's hearing health can contribute to the early identification of otological and hearing alterations and to the adoption of communication strategies that minimize hearing difficulties.

**Key words:** hearing; child; Public health policies.

#### 7766. Brainstem auditory evoked potential and binaural integration in elderly

Anna Caroline Silva de Oliveira, Francieli Trevizan Fernandes Toneloti, Breno Elisa Lucas, Letícia Sampaio de Oliveira, Viviane Borim de Góes, Ana Claudia Frizzo

Faculdade de Filosofia e Ciências - UNESP Campus de Marília, SP

**Introduction:** Degenerations of the physiological, functional and behavioral aspects as well as structural changes in the central pathways are part of aging. The auditory evoked potential is a very effective instrument used for audiological assessment and diagnosis and in the study of auditory cortical function.

**Objective:** To describe and compare brainstem evoked potentials with binaural stimulation in young and elderly individuals.

**Methods:** Analytical, observational and transversal study. Approval of the University Research Ethics Committee (number: 43666815.8.0000.5406). Twenty elderly individuals with good cognitive performance, of both genders, from 60 years with normal hearing thresholds or mild sensorineural hearing loss, and 10 young of both genders, between 18 and 30 years with normal hearing thresholds were included in the study. The evoked potential was recorded in FZA1 and FZA2 with binaural stimulation at the intensity of 80 dBNA. Post-Hoc Turkey test was performed for peer-to-peer comparisons and T-tests for independent samples.

**Results:** There was a statistically significant difference ( $p < 0.05$ ) in all components when comparing latency values between young and elderly for all records conditions. It was verified an increase in the latency of the waves obtained with binaural stimulation in the elderly when compared to young people, the same occurred in binaural integration mainly in the ipsilateral registers.

**Conclusion:** Even the elderly without hearing loss present difficulties in suppressing undesirable information and impairment in the separation and integration of auditory information evidenced by measures of brainstem potentials.

**Key words:** Elderly, Hearing, Auditory Evoked Potential.

#### 7771. Speech disfluencies and stuttering severity of preschool and school-age children who stutter

Talissa Almeida Palharini, Larissa Cristina Bertin, Cristiane Moço Canhetti de Oliveira

Programa de Pós-Graduação em Fonoaudiologia - UNESP - FFC - Marília

**Introduction:** Accurate data in fluency assessment of preschool and school-age children who stutter have implications in the diagnosis and therapy of stuttering.

**Objectives:** To characterize and compare the disfluencies and stuttering severity of preschool and school-age children who stutter.

**Methods:** This was an analytical cross-sectional, performed at the São Paulo State University approved by the Ethics Committee of the Institution (nº 59665916.0.0000.5406). Participants were 50 children with persistent developmental stuttering, aged 3-11 years, of both gender, divided in: Preschool Stuttering Group (PSSG), composed of 25 preschool children who stutter, aged 3-6 years; and the School-age children Stuttering Group (SSG), composed of 25 school-age children who stutter, aged 7-11 years. The procedures used were: fluency assessment and Stuttering Severity Instrument (SSI-4, Riley, 2009).

**Results:** For the two groups, the most frequent stuttering-like disfluency was monosyllable word repetition, and hesitation was the other disfluency more frequent. SSG showed twice more blocks and sound repetitions than PSSG. The percentage of stuttered syllables was similar in both groups. In PSSG, 60% showed moderate stuttering, 24% mild and 16% severe. In SSG, 44% showed mild stuttering, 36% moderate and 20% severe.

**Conclusion:** The fluency profile of preschool and school-age children who stutter were similar regarding to frequency of disfluencies. However, blocks and sound repetition were more frequent in SSG than PSSG. The moderate stuttering was more frequent in the PSSG and the mild stuttering in SSG. These findings suggest the importance of the early diagnosis and treatment of the stuttering.

**Key words:** Stuttering; Speech; Child.

#### 7772. Characterization of the population with complaint of imbalance

Bárbara Camilo Rosa, Jerusa Roberta Massola de Oliveira, Francielle Martins Ferreira, Maria Julia Ferreira Cardoso, Gláucia Gonçalves Raineri Hospital de Reabilitação de Anomalias Craniofaciais da Universidade de São Paulo- HRAC-USP

**Introduction:** Dizziness and imbalance are very common complaints in doctors' offices, and there are many factors that may be related to it.

**Objective:** To characterize the population that presents an imbalance complaint related to life habits, comorbidities and medication use in patients attended at the Hospital de Reabilitação de Anomalias Craniofaciais.

**Methodology:** This is a simple exploratory quantitative study, with data collection from the analysis of specific anamnesis of the medical records of patients attended at the Otoneurology outpatient clinic of the Hearing Health Division at the same hospital. A total of 28 medical records were analyzed and the main life habits, possible comorbidities and use of medications related to complaints of imbalance disorders in patients aged between 19 and 85 years were analyzed.

**Results:** Among the findings, it was possible to correlate the balance alterations with eating habits such as sweet (75%), coffee consumption (68%), soda (61%), chocolate (53%), tea (36%); Life habits such as alcohol consumption (18%) and cigarette smoking (7%); (71%), emotional factors (46%), poor sleep quality (21%). In addition, unbalance complaints were related to health problems such as hypertension (36%), migraine (28%), thyroid alteration (21%), traumatic brain injury (18%), diabetes (14%), Cholesterol (14%) and stroke (7%).

**Conclusion:** The results show that the signs and symptoms of vestibulopathies are mainly related to eating habits regarding the consumption of sweet foods, the use of medications and emotional factors. These changes in balance may have aggravating consequences for patients' daily lives and may impair their quality of life.

#### 7774. Deglutition rehabilitation after stroke: follow up of transition and oral consumption

Bruna Saurin, Simone Augusta Finard Hospital de Clínicas de Porto Alegre

**Introduction:** The aging process involves an increase in the prevalence of chronic diseases that may be associated with stroke. In many cases, sequelae occur in orofaringeal functions, such

as dysphagia. This disorder can cause malnutrition, dehydration and aspiration pneumonia.

**Objectives:** To describe an evolution of the swallowing disorder of the elderly, with diagnosis of stroke, before and after swallowing rehabilitation.

**Methods:** Retrospective, cross-sectional and interventional study, approved by the Ethics and Research Committee, under number nº 16-0564. Were selected a total of 33 records of the elderly, with 60 years old or older, of both sexes, who underwent ambulatory phonoaudiological follow-up at the Hospital de Clínicas de Porto Alegre. Were included patients submitted to at least four visits with a classification of the Funcional Oral Intake Scale before and after swallowing rehabilitation.

**Results:** The average age was 68 years. After the intervention, 67% individuals presented an improvement in the Funcional Oral Intake Scale or maintained levels six (total oral diet with multiple consistencies, but with specific food limitations) or seven (oral total diet).

**Conclusion:** After the rehabilitation of swallowing, more than half of the elderly patients with dysphagia of the sample presented improvement or maintained oral intake of multiple consistencies.

**Key words:** Deglutition disorders; rehabilitation; stroke.

#### 7781. Development of the speech test signal in Portuguese for real ear measurement - male voice

Luciana Garolla, Maria Cecília Martinelli Iório  
UNIFESP

**Objective:** Recommended practice is to verify the gain and/or output of hearing aids with speech or speech-shaped signals. This study has the purpose of developing a speech test signal in Brazilian Portuguese in male voice that is electroacoustically similar to the International Long-Term Average Speech Spectrum (ILTASS) for use in real ear verification systems.

**Methods:** A Portuguese speech passage was recorded using standardized equipment and procedures for one male talker. The recording was filtered to the ILTASS and compared to the International Speech Test Signal (ISTS).

**Results:** Following editing and normalization to an overall level of 70 dB SPL, the male passage matched the ILTASS shape within 2 dB on average, and within 8.5 dB per third octave band level, between 200 and 8000 Hz. The average difference between the talker passage and the ISTS spectrum was ±1 dB, across 200-8000 Hz.

**Conclusion:** Comparisons between the Portuguese test signal in male voice and ISTS revealed close match between the two signals. Speech passage values agree with the literature values. Overall, it was demonstrated that the developed Portuguese speech passage in male voice can be used for hearing aid verification for nonlinear hearing aids. Its spectral shape follows the recommendation done by Keidser et al. (2010) for hearing aid measurement.

**Key words:** test signal, hearing aid measurement, hearing aid, LTASS.

#### 7784. Phonoaudiological intervention in patients submitted to bariatric surgery: a review systematic

Leonardo Sousa Costa, Juliana Mota Ferreira, Claudia Sobral de Oliveira Uchoa  
Hospital Universitario Valter Cantidio

**Introduction:** Speech-language intervention in elective patients undergoing bariatric surgery has a preventive nature, preserving post-surgical complications such as embassies, gagging, pyrosis and vomiting. However, another bias would be the therapeutic, intervening in alterations identified in the preoperative, that probably will last, and in the postoperative period.

**Objective:** To carry out a systematic review on the speech and language pathology in patients submitted to bariatric surgery. This study was based on a systematic review, without meta-analysis, on speech-language pathology in bariatric surgery. The research was carried out in the national and international electronic

databases, LILACS, MEDLINE, PubMed and SciELO, through the following descriptors: "speech therapy" and "bariatric surgery". Combinations. Inclusion criteria applied included subjects in speech therapy / treatment during the pre and post surgical period; Without delimitation of time; Publications in English Portuguese.

**Data Synthesis:** The analysis of the data found and the considerations made throughout this systematic review made it possible to infer that most of the publications do not apply to therapeutic approaches but to evaluation of aspects related to the oral myofunctional evaluation of the patient.

**Conclusion:** It should be emphasized that the number of articles published was superior in relation to the number of dissertations. In spite of the notorious growth in the last years of speech-language pathology in patients submitted to bariatric surgery, the lack of studies in Brazil demonstrates the need to carry out the application of scientifically studies, mainly in speech therapy intervention.

**Key words:** Speech-language; bariatric surgery.

#### 7796. A comparative study of the vocal characteristics of Individuals with vocal fold cysts and sulcus vocalis

Danilo de Albuquerque Rodrigues, Marcia Simões Zenari, Domingos Hiroshi Tsuji, Katia Nemr  
Universidade de São Paulo

**Introduction:** Vocal fold cysts and sulcus vocalis contribute to the increase of vocal fold stiffness favoring the occurrence of dysphonia. Increasing knowledge about clinical aspects will aid the evaluation and effectiveness of treatment.

**Objectives:** Compare vocal and acoustic parameters between cysts and sulcus vocalis.

**Methods:** Retrospective cross-sectional study. Subjects were selected from our database (Laboratório de Investigação Fonoaudiológica em Voz da FMUSP) from 2011 to 2016, with conclusive diagnosis of vocal fold cysts and sulcus vocalis, without associated lesions. We performed perceptual-auditory (CAPE-V) and acoustic analysis (automatic measurements and spectrography).

**Results:** Sample of 67 individuals (average age 45.19 years), 48 (71.6%) women and 19 (29.4%) men. Vocal cysts: 32 (30 unilateral, 2 bilateral); sulcus vocalis: 35 (13 unilateral, 22 bilateral).

In the perceptual-auditory analysis roughness was the most present parameter in both. Greater severity of the dysphonia in sulcus vocalis as to the general degree of vocal deviation, breathiness, tension, aggravated pitch and high loudness. In acoustic analysis there was a higher frequency of harmonic definition in the cysts (Mann-Whitney and Chi-Square tests).

**Conclusion:** The study showed similarity in the prevalence of cysts and sulcus vocalis and rough voice. Emphasis on the occurrence of bilateral sulcus vocalis, which present a higher degree of vocal deviation, breathiness, tension, pitch and loudness deviations, and a lower average of harmonics. Investigating the profession and its vocal demands in patients with bilateral sulcus vocalis may contribute to the therapeutic definition aiming to minimize the vocal impact on quality of life.

#### 7797. Analysis of the production of care for the children undergoing to cochlear implant in a tertiary health care service in fortaleza

Claudia Sobral de Oliveira Uchoa, Ilvana Lima Verde Gomes, Emilia Kelma Alves Marques  
Hospital Geral de Fortaleza

The Cochlear Implant is a high cost treatment and proposes significant advances in the language development of children.

**Objective:** The general objective was to analyze the production of care for children submitted to Cochlear implant in a tertiary health care service in the city of Fortaleza, identifying the forms of access of the users.

**Methodology:** Qualitative study, with interviews with family and workshop with health professionals, in period from August to October 2013 (Approval Ethics Committee No.301,269).

**Results:** The data were described through the Mehry's flowchart analyzer, which revealed the professionals' knowledge about the routine for entry and reception of the users of Cochlear Implant Service of the Hospital and identified the main difficulties in the flow of service. The interviews were submitted to content analysis proposed by Flick (2009) that resulted in two central themes. The first one: The path from the discovery of the deafness to the Cochlear Implant Service, with the subcategory - discovery of the deafness, search for health services and access to the Cochlear Implant Service. The second: The production of care for the child submitted to cochlear implant surgery, with the subcategories: care by the health team, care by the family and the perceptions on the results of the treatment.

**Conclusions:** The professionals demonstrate a deep bonding with the families and users, through friendly practices, accountability and commitment. Family members recognize the importance of implantation and speech therapy for the child's linguistic development.

**Key words:** Tertiary health care, hearing, cochlear implant, access to health service.

#### 7799. The Influence of a consolidated Mother Tongue on Central Auditory Processing Training

Joyce Fialho Rodrigues  
Clinica Vita

The Influence of a consolidated Mother Tongue on Central Auditory Processing Training.

**Introduction:** The mother tongue will be established through the auditory exposure in the medium in which the individual is inserted. Auditory Processing Disorder, besides impairing the acquisition of mother tongue, will make it impossible to acquire a second language.

**Objective:** To verify if the consolidation of the mother tongue would be a prerequisite for the successful conclusion of Central Auditory Processing Therapy.

**Summary report:** 10-year-old male Chinese child, tells that he first came to Brazil at as a baby and stayed here until the age of three (he describes having difficulty in acquiring the Chinese language). He returned to the home country where he stayed till the age of five, when they finally returned to Brazil. He now attends primary school in a regular Brazilian school and complains about learning Portuguese. He also switch letters in speaking and writing. An evaluation of his Central Auditory Processing (PAC) was carried out and it was identified alterations in physiological mechanisms of selective attention (figure-background for verbal and non-verbal sounds in dichotic listening). He was forwarded to me to start ACAT (Acoustically Controlled Auditory Training).

**Conclusion:** In the 10th session of the ACAT, which worked with auditory abilities along with language the patient couldn't progress. I found out he lacked consolidation in the acquisition of the mother tongue, Chinese. For this reason, we raised the hypothesis that the absence of consolidated mother tongue impacts the success of the ACAT therapy.

#### 7801. Effects of inhalation subchronic exposure to dichlorvos on wistar rats hearing

Mateus Belmonte Macedo, Eliane Dallegrave, Márcia Salgado Machado, Eduarda Oliveira Cunha, Aléxia dos Reis  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Considering that pesticides can cause hearing disorders in occupationally exposed workers, the lack of studies that characterize the specific mechanisms of ototoxicity, and the difficulty of separating concomitant factors such as machinery noise, this study aims to elucidate the effects of exposure to an organophosphate in rat hearing.

**Objective:** To evaluate the effects of inhaled subchronic exposure to organophosphate Dichlorvos on the cochlear function of Wistar rats.

**Methods:** 34 male rats of 60 days, allocated in 3 groups: Control (N = 13, exposed to water), Positive Control for auditory

lesion (N = 8, treated with 24mg / kg intraperitoneal cisplatin) and Experimental group = 13, exposed to dichlorvos -1/10 of the median lethal inhalation dose). The exposure occurred for 4 hours, 5 times a week, for 6 weeks. Distortion product otoacoustic emissions were evaluated before and after the exposure period, in 4,6,8,10 and 12 kHz. Data were presented as median and interquartile range and the groups compared by Kruskal-Wallis and t'Student tests.

**Results:** There was no significant change in body mass gain, however, the animals showed transient clinical signs (piloerection, dyspnea and depression) during the exposure. The relative gain of body mass in the period was similar ( $p > 0.05$ ; t'Student test) between the groups (Control:  $138.8 \pm 22.7\%$ ; Dichlorvos:  $145.6 \pm 20.9\%$ ). The mean amplitude of distortion product otoacoustic emissions after exposure period was reduced in relation to baseline assessment.

**Conclusion:** Subchronic inhalation exposure to dichlorvos induced ototoxicity in rats.

**Key words:** Ototoxicity; Agrotoxic; Organophosphorus; Animal Model.

#### 7802. Use of amplification and sound generator combined with amplification in the treatment of tinnitus

Eliane Aparecida Techi Castiquini, Cláudia Daniele Pelanda Zampronio, Ana Cláudia Bianco Gução, Jerusa Roberta Massola de Oliveira, Naiara Rodrigues Carlota do Nascimento  
Hospital de Reabilitação de Anomalias Craniofaciais/Universidade de São Paulo

**Introduction:** In the hearing healthcare services, one of the frequent complaints reported by individuals is the perception of continuous or intermittent additional external sound, detected in the ears or in the head, a symptom known as tinnitus. Considering that the external sound enrichment interferes with the processing of tinnitus, by favoring the reduction of the tinnitus and the reduction of the emotional aspects involved, it was intended to confirm the premise that the use of the amplification or the combined use with sound generator are presented as efficient therapeutic alternatives.

**Objective:** to analyze the applicability of therapeutic approaches of sound amplification and of sound generator combined to the amplification for tinnitus.

**Methods:** Clinical research with a primary, observational, retrospective design based on data from the Tinnitus Handicap Inventory and Analog-Visual Scale of 30 adults with mild and moderate mixed and sensorineural hearing impairment and tinnitus associated. The pre and post amplification results were analyzed for group 1 - users of sound amplification and group 2 - users of broadband sound generator combined with amplification.

**Results:** The Tinnitus Handicap Inventory revealed a reduction in pre and post situations in both therapeutic approaches of 34,3 for group 1 and 37,5 for group 2 and in the Analog-Visual Scale scale of 6,0 for group 1 and 3,8 for group 1 Group 2.

**Conclusion:** A clinically significant difference was observed before and after the therapeutic approaches used with the decrease of the degree of tinnitus discomfort.

**Key words:** tinnitus, handicap, amplification.

#### 7804. Analysis of the responses of cervical vestibular evoked myogenic potential in children and adults without vestibular complaints

Bárbara Melissa Pereira da Silva, Pricila Sleifer  
Universidade Federal do Rio Grande do Sul

**Introduction:** The Cervical Vestibular Evoked Myogenic Potential assesses the vestibular function from the muscular response resulting from a strong auditory stimulation. Myogenic responses are recorded by surface electromyography.

**Objectives:** to analyze and compare the responses of cervical vestibular evoked myogenic potential in adults and children.

**Methods:** 45 children (23 female and 22 male) and 50 adults (23 male and 27 female) were evaluated using MASBE ATC PLUS, by Contronic. The parameters were: 5.1 stimuli per second; 200 toneburst stimuli with a frequency of 500Hz; intensity of 118dBNa; alternating

polarity; bandpass filter from 5Hz to 1000Hz; 90% noise limit, using insertion headphones.

**Results:** On the children it was observed that the mean latencies of P1 and N1 and amplitudes were, respectively, 15.89ms, 24.25ms and 39.9uv. No statistically significant differences were found in the comparison of sexes and ears. The mean of P1 wave latency in adults was 12.43ms and N1 was 19.19ms. The amplitude presented a mean of 29.8uv. They were not statistically significant differences were found in the comparison of sexes and ears on adults as well. In the data analysis, there was a statistically significant difference between adults and children, both in latencies ( $p = 0.023$ ) and in amplitudes ( $p = 0.041$ ).

**Conclusion:** There is a statistically significant difference between adults and children, both in P1 and N1 latencies and in amplitudes, thus emphasizing the importance of the standardization of cervical vestibular evoked myogenic potential in different age groups and populations.

**Key words:** vestibular evoked myogenic potential; children, adults.

#### 7806. Agreement between classification criteria of audiometric findings

Leticia Saia da Silva, Georgea Espindola Ribeiro, Daniela Polo Camargo da Silva, Jair Cortez Montovani

Faculdade de Medicina de Botucatu

**Introduction:** There are many ways to classify an audiogram in relation to the degree of hearing loss, which may lead to different interpretations for the same exam and there is not a consensus about the best classification to be applied.

**Objective:** To verify the concordance between the classifications for the degrees of hearing loss.

**Method:** This was a retrospective study, 100 subjects with a mean age of 64 years were submitted to pure tone audiology and the results were classified according to four different methods.

**Results:** In a total of 200 ears, 51 were normal and 149 presented some degree of hearing loss according to the classification of Lloyd and Kaplan (1978). In the classification recommended by Davis (1970), 50 were normal, while 150 presented some degree of hearing loss. In the classification of BIAP (1996), 37 normal, while 163 presented some degree of hearing loss. In the classification recommended by the WHO (2014), 43 were normal, while 157 presented some degree of hearing loss.

**Conclusion:** The classifications that recommend the inclusion of 4000 Hz in the mean were those that characterized a greater number of hearing impairment.

#### 7807. Voice Workshops relieve discomfort of the voice and vocal tract of singers

Mariana Ferreira Gonçalves, Lidia Teles

Faculdade de Odontologia de Bauru - Universidade de São Paulo

**Introduction:** The singers present frequent manifestations of vocal discomfort, in general, due to the harmful habits of the voice. In this way, health promotion and vocal enhancement are essential actions for singers. It is believed that with a greater knowledge of these professionals, there is a reduction in vocal discomfort and vocal tract discomfort.

**Objective:** To verify the range of Voice Workshop in the discomfort of voice and vocal tract of singers.

**Method:** 24 singers participating of the Voice Workshop, with 19 women and 5 men, aged between 25 to 60 years, average age = 43 years  $\pm$  4 years. Voice Workshop six meetings of two hours, contents: anatomophysiology of the voice, vocal health, practice of costodiaphragmatic breathing, body stretching and vocal exercises associated with vocalises. The singers responded, before and after the Voice Workshop, the Vocal Discomfort Scale and the Vocal Tract Discomfort Scale.

**Results:** There was a reduction ( $p < 0.05$ ) of all manifestations on both scales after Voice Workshop, both in frequency and intensity. In the Vocal tract Discomfort Scale, most singers had a reduction in

the frequency and intensity for: dryness, pain, itching and irritation in the throat. Regarding the Vocal Discomfort Scale, most singers had a reduction in the frequency and intensity for: hoarseness, failure, strong voice, stress and fatigue while speaking.

**Conclusion:** The Voice Workshop provided reduction in the discomfort of the voice and vocal tract of singers, both in the frequency and intensity of the manifestations.

**Key words:** singer, voice, health.

#### 7808. Oral reintroduction in patients with diagnosis of cranoencephalic traumatism

Ana Claudia de Oliveira, Ana Clara Kettl dos Santos, Jordana da Silva Freitas, Gabriela da Cunha Pereira, Letícia Kurtz, Silvia Sartori  
Grupo Hospitalar Conceição

**Introduction:** Cranioencephalic trauma (TBI) is defined as any aggression that results in anatomical injury or functional impairment of the brain. The injury caused by the TBI can result in a series of structural, physiological, and functional changes of the central nervous system, and may even entail difficulty swallowing.

**Objectives:** Describe a series of patient cases diagnosed with TBI who underwent evaluation and monitoring of the feeding route with a speech pathologist, hospitalized at a recognized trauma hospital.

**Resumed report:** The sample consisted of 10 males and 5 females that received care between April and May 2017, aged between 19 and 88 years old. Regarding classification, 26.66% were diagnosed with mild TBI, 26.66% with moderate TBI, and 46.66% with severe TBI. Trauma causes were identified as: traffic accident (7), fall (4) and assault (4). Patients with mild TBI received their entire diet orally (P.O.), and maintained the same condition after speech pathology evaluation. Among the patients with moderate TBI, 75% did not receive an oral diet until their care; however, all progressed to total oral feeding. In cases of severe TBI, 71.4% of patients using an alternative route were able to reintroduce oral feeding by the end of speech pathology therapy.

**Conclusion:** Speech pathology therapy, aimed at reintroducing oral feeding, provided a better performance in patients with moderate and severe TBI, allowing a safe, efficient, and physiological feeding pathway for individuals with greater neurological impairment.

**Key words:** head injury; deglutition disorders; speech, language and hearing sciences.

#### 7810. Evaluation of Participation Restriction: the self-perception of elderly people with hearing impairment

Ana Elisa Lara de Noronha Souza, Cláudia Daniele Pelanda Zampronio, Inara Maria Monteiro Melo  
Hospital de Reabilitação de Anomalias Craniofaciais

**Introduction:** Hearing loss changes the body's functionality, limiting the activities and restricting the participation of the elderly in daily life situations.

**Objectives:** investigate the relationship between the participation restriction self-perception, with audiological and socio-demographic data in elderly patients with hearing loss.

**Methods:** The sample consisted of 159 subjects, 91 males and 68 females, aged 60 to 95 years. The data were collected through analysis of the charts and these were registered in specific protocols for each area. For the evaluation of the participation restriction self-perception was applied the Hearing Handicap Inventory for the Elderly - Screening Version on the day of the hearing aid adaptation.

**Results:** that most of the elderly belongs to the higher low socioeconomic status (69.8%), moderate sensorineural hearing loss (63.5%), most (93%) presented participation restriction self-perception from mild / moderate or significant. The distribution and association between gender and questionnaire score revealed no statistically significant ( $p > 0.05$ ). The association between the other socioeconomic and audiological data and the score of each scale of the questionnaire indicated a statistically significant difference between the degree of hearing loss and the social scale and full

scale, and that the difficulties in speech comprehension did not show strong relationship with. Conclusion There is a need to include in the clinical routine questionnaires that evaluate the self-perception of the participation restriction of the studied population, since the audiological and sociodemographic data do not allow to estimate the subject's perception regarding their hearing loss.

**Key words:** hearing impairment; elderly; questionnaires.

#### 7811. Outcomes of automated auditory evoked potential realized in different places and factors associated with refer cases

Leticia Saia da Silva, Georgea Espindola Ribeiro, Daniela Polo Camargo da Silva, Jair Cortez Montovani  
Faculdade de Medicina de Botucatu

**Introduction:** The population with risk factors for hearing loss the first option to assess the hearing status is the realization of automated Brainstem Auditory Evoked Potential because the higher prevalence of retrocochlear hearing loss. To verify the outcomes of automated BAEP performed in different places, such as the factors associated with the prevalence of hearing impairment.

**Materials and Methods:** Cross-sectional study conducted from October 2014 to May 2015. The sample consisted of 161 infants with at least one risk factor for hearing loss who underwent automated BAEP during the hospital stay or ambulatory. The altered cases were referred after 30 days to the BAEP-diagnosis.

**Results:** 138 (86%) had a result of "pass" and 23 (14%) of "failure" in automated BAEP. There was no statistically significant difference between the rate of "failure" when the examination was carried out in different places. Infant age did not influence the number of abnormal cases. Of the 23 infants who presented the "failure" in automated BAEP, unilateral or bilateral, they were referred to the BAEP-diagnosis and of these, nine (39%) remained with at least some degree of change. The average age of diagnosis was 2.7 months.

**Conclusion:** The prevalence of hearing impairment in infants with risk for hearing loss was similar when performed in the hospital stay or ambulatory, the age at examination and sex did not affect the number of failures, and there was a greater number of abnormal cases in automated BAEP in compared to the BAEP-diagnosis.

**Key words:** neonatal screening, hearing loss, infant.

#### 7812. Baha Attract implant system: audiological and speech perception results

Tyuana Sandim da Silveira Sassi, Elisabeth de Oliveira Bonfim, Rubens Vuono de Brito Neto, Eduardo Boaventura Oliveira, Érika Cristina Bucovic, Valdélia Vieira de Oliveira, Eliane Aparecida Techi Castiquini  
Hospital of Rehabilitation of Craniofacial Anomalies, University of São Paulo

**Introduction:** The Baha Attract system consists of a magnet placed under the skin and an osseointegrated titanium implant to propagate the sound to the inner ear through the skull. Individuals with ear malformation may benefit from this feature.

**Objective:** To evaluate the results of audiological evaluation and speech perception tests in pre and post-surgical conditions.

**Methods:** The study was developed in the Hearing Health Division of the Hospital of Rehabilitation of Craniofacial Anomalies, University of São Paulo. Nine individuals with bilateral external and/or middle ear malformation, aged 11 to 17 years, with moderate to severe conductive hearing loss participated. They were submitted to free-field tonal audiometry and speech perception tests in quiet and noise in the pre-surgical condition without and with conventional bone conduction hearing aid, with the Baha coupled to the softband, as well as on activation of the implant and after three months of implant use.

**Results:** Tonal thresholds obtained with the implant were up to 10 dB better than those obtained with hearing aid. The mean sentence recognition threshold in quiet and the signal-to-noise ratio were, respectively, 54.8dBNA and 0.8dBNA without hearing aid, 27.8dBNA and -0.3dBNA with hearing aid, 24.2dBNA and -2.1dBNA

with softband, 27.1 dBNA and -2.3dBNA on activation and 23.7dBNA and -4.4dBNA after three months of implant use.

**Conclusion:** It was verified that the Baha Attract provided improvement both in the audiological evaluation and in the speech perception in relation to the conventional bone conduction hearing aid.

**Key words:** Baha Attract; bone anchored; aural atresia.

#### 7814. Agreement between classification criteria of audiometric findings

Leticia Saia da Silva, Jair Cortez Montovani, Daniela Polo Camargo da Silva, Georgea Espindola Ribeiro  
Faculdade de Medicina de Botucatu

**Introduction:** There are many ways to classify an audiogram in relation to the degree of hearing loss, which may lead to different interpretations for the same exam and there is not a consensus about the best classification to be applied.

**Objective:** To verify the concordance between the classifications for the degrees of hearing loss.

**Method:** This was a retrospective study, 100 subjects with a mean age of 64 years were submitted to pure tone audiometry and the results were classified according to four different methods.

**Results:** In a total of 200 ears, 51 were normal and 149 presented some degree of hearing loss according to the classification of Lloyd and Kaplan (1978). In the classification recommended by Davis (1970), 50 were normal, while 150 presented some degree of hearing loss. In the classification of BIAP (1996), 37 normal, while 163 presented some degree of hearing loss. In the classification recommended by the WHO (2014), 43 were normal, while 157 presented some degree of hearing loss.

**Conclusion:** The classifications that recommend the inclusion of 4000 Hz in the mean were those that characterized a greater number of hearing impairment.

**Key words:** Hearing loss, Audiometry, Hearing.

#### 7816. Baha Connect implant system: audiological and speech perception results

Eliane Aparecida Techi Castiquini, Sandra Elisa Rossetto Agra, Rubens Vuono de Brito Neto, Jose Carlos Jorge, Érika Cristina Bucovic, Tyuana Sandim da Silveira Sassi, Juliana Nogueira Chaves  
Hospital of Rehabilitation of Craniofacial Anomalies, University of São Paulo

**Introduction:** The Baha Connect system uses an osseointegrated titanium implant to propagate the sound to the inner ear through the skull. Individuals with ear malformation or chronic otitis media may benefit from this feature.

**Objective:** To evaluate the results of audiological and speech perception tests in pre and post-surgical conditions.

**Methods:** The study was developed in the Hearing Health Division of the Hospital of Rehabilitation of Craniofacial Anomalies, University of São Paulo. Four individuals with bilateral external and/or middle ear malformation and one with chronic otitis media, aged between 19 and 38 years, with moderate to profound conductive and mixed hearing impairment participated. They were submitted to free-field tonal audiometry and speech perception tests in quiet and noise in the pre-surgical condition without and with the conventional hearing aid, with the Baha coupled to the softband, on activation of the implant and after a month of implantation.

**Results:** Tonal thresholds obtained with the implant were up to 25 dB better than those obtained with the hearing aid. The mean sentence recognition threshold in quiet and the signal-to-noise ratio were, respectively, 53.3dBNA and 1.1dBNA without hearing aid, 35.5dBNA and 0.7dBNA with hearing aid, 25.4dBNA and 0dBNA with softband, 25.7dBNA and -3.4dBNA on activation and 24.6 dBNA and -2.8dBNA after one month of implant use.

**Conclusion:** It was verified that Baha Connect provided improvement both in the audiological evaluation and in speech perception in relation to the conventional hearing aid.

**Key words:** Baha Connect; osseointegrated; aural atresia.

### 7817. The relationship between hearing screening and referral the cochlear implant

Gleide Viviani Maciel Almeida, Giselle Kubrusly Sypczuk, Claudia Andriguetto Maoski Moretti, Renato Riesemberg Gabriel Martins Filho, Sandra Marai Schefer Cardoso, Angela Ribas  
Universidade Tuiuti do Paraná

**Introduction:** Neonatal hearing screening was mandatory in Brazil in 2010. From then on, it is expected that children with congenital hearing loss will be diagnosed quickly and referred to the appropriate rehabilitation.

**Objectives:** The objective of this study was to describe the impact of the Neonatal Hearing Screening on the diagnosis of hearing loss and the Cochlear Implant referral in the Public Health Hearing Service of the Pequeno Príncipe Hospital (HPP) located in Curitiba state of Paraná.

**Methods:** We analyzed the charts of 56 implanted children, where they were collected data on: gender, date of completion and result of neonatal hearing screening, cause of hearing loss, age of Cochlear Implant Surgery.

**Results:** There was no predominance of gender; 50% of the sample did not do the "orelhinha screening"; 61% have an indefinite etiological diagnosis; children who did not do neonatal hearing screening were implanted about one year and five months after the children who had do the procedure in the maternity.

**Conclusion:** Deaf children who did not perform neonatal hearing screening ,came later to Cochlear Implant service, than deaf children who went through the procedure, which highlights the importance of their performance in the maternity.

**Key words:** Hearing. Child. Speech therapy. Cochlear implant. Hearing Screening.

### 7826. Evaluation of the balance of elderly after a vestibular rehabilitation program

Taís Cristine Fernandes, Karla Anacleto de Vasconcelos, Daniele de Assis Gonçalves, Pamela Barros da Silva Vieira Ramos, Isabela Rodrigues Cabral

Universidade Veiga de Almeida

**Introduction:** The WHO states that in 2025 Brazil will be the sixth country in the world with the largest number of elderly people. Changes in sensory systems are part of aging and are related to the complaint of postural instability and fall. Vestibular rehabilitation can help maintain body balance and prevent falls.

**Objectives:** Assess changes in Berg Balance Scale results and in the answers for Brazilian Functional Assessment Questionnaire (BOMFAQ) after application of the Vestibular Rehabilitation Protocol among elderly.

**Method:** A prospective study was conducted with the participation of 36 above-60-year-old volunteers, participants in the Interdisciplinary Program of Health Promotion and Quality of Life in the Elderly, from Grupo Renascer in UNIRIO (Federal University of the State of Rio de Janeiro). BOMFAQ questionnaire was used to evaluate the functional capacity in activities of daily living (ADL) and Berg Balance Scale was used to verify the balance of this population before and after 10 weeks of the Cawthorne-Cooksey exercises.

**Results:** In the initial Berg Balance Scale evaluation the overall mean was 44.0 (min. 11 / max. 56) and after vestibular rehabilitation it became 49.9 points (min. 30 / max. 56). In BOMFAQ questionnaire the overall mean was 2.8 and 1.5 respectively, in the preand post-vestibular rehabilitation evaluation.

**Conclusion:** Berg Balance Scale and BOMFAQ questionnaire tools were effective in the verification of balance changes and inactivities of daily living (ADL) among study population after using the Cawthorne-Cooksey protocol.

### 7827. Clinical findings in velopharyngeal dysfunction after leptospirosis: case report

Caroline Antonelli Mendes, Olívia Mesquita Vieira de Souza, Marco Antonio Ferraz de Barros Baptista  
Faculdade de Odontologia de Bauru (FOB USP)

**Introduction:** Leptospirosis is an acute infection, potentially severe, caused by the gram-negative aerobic spirochete bacteria of

the genus *Leptospira* (*Leptospira interrogans*), a zoonosis of high incidence in Brazil, with an average of 13,000 reported cases every year, 3,500 of which were confirmed with a lethality of 10.8%. Most affected subjects are in the productive age group, between 20 and 49, with clinical, epidemiological and laboratory diagnosis presenting dyspnea, cough and tachypnea, urinary alterations, hemorrhages, hypotension, changes in the level of consciousness, frequent vomits, arrhythmias and jaundice. Normally, leptospirosis does not leave sequels.

**Objectives:** To describe a case of velopharyngeal dysfunction as a sequel from leptospirosis.

**Resumed report:** A male patient, with left trans-incisive foramen cleft operated, without fistula, with a normal resonance of speech and dental occlusion alterations. He presented a leptospirosis condition and was in a coma for 19 days in 2016. After hospital discharge, as sequels, hypernasal speech, a presence of nasal reflux for liquids and hypoacusia were observed. In the evaluation with a speech-language pathologist and audiologist, the patient presented moderate/severe hypernasal resonance of speech, emission of nasal air and presence of dental occlusion alterations. A flexible nasopharyngoscopy was performed to evaluate the velopharyngeal mechanism. The patient presented a limited movement of the soft palate, with a large transverse gap during the emission of all phonemes.

**Conclusion:** No studies were found concerning the relation of leptospirosis with a velopharyngeal condition. Therefore, it is important to implement protocols approaching both treatment and instrumental assessments.

### 7829. Speech therapy management for feeding route in patients diagnosed with subarachnoid hemorrhage

Gabriela da Cunha Pereira, Silvia Sartori, Ana Cláudia de Oliveira, Letícia Kurtz, Jordana da Silva Freitas, Ana Clara Kettl dos Santos  
Escola GHC

**Introduction:** Subarachnoid hemorrhage (SAH) consists of the presence of intracerebral bleeding in the subarachnoid space. The main causes are: systemic diseases, intracranial neoplasias, aneurysms, arteriovenous malformations, cranoencephalic traumas, as well as undetermined etiology. This hemorrhage compromises brain function, with the possibility of injuring areas responsible for swallowing and altering the level of consciousness, making oral feeding difficult.

**Objectives:** To report a series of cases, submitted to speech therapy management for diet progression in patients diagnosed with SAH, admitted to a recognized trauma hospital.

**Resumed report:** 19 patients with a SAH diagnosis were evaluated by speech therapists during the months of April to May 2017, including 47.36% with traumatic SAH, 36.34% with aneurysmal SAH, and 15.78% without a specific cause. The sample is composed of 12 females and 7 males, aged between 19 and 81 years old, with difficulties in the swallowing process. The Functional Oral Intake Scale (FOIS) was used to measure the feeding route before and after management. Therefore, 89.47% presented a FOIS 1, and 10.52% FOIS 5, before care. After follow-up, 47.36% presented a FOIS 7, 21.05% with FOIS 4, 15.78% reported FOIS 1, 10.52% with FOIS 3 and 5.26% with FOIS 6. During the management, there were no cases of aspiration pneumonia.

**Conclusion:** Speech therapy management showed positive results in the progression of the feeding route by ensuring appropriate consistency to be offered to the patient, making efficient diet management possible.

**Key words:** Subarachnoid Hemorrhage - Deglutition Disorders - Eating - Speech, Language and Hearing Sciences.

### 7830. Vestibular rehabilitation as a tool in the change of equilibrium in elderly without dizzines

Isabela Rodrigues Cabral, Karla Anacleto de Vasconcelos, Daniele de Assis Gonçalves, Taís Cristine Fernandes, Pamela Barros da Silva Vieira Ramos  
Universidade Veiga de Almeida

**Introduction:** It is estimated that in 2050 approximately 30% of the Brazilian population will be elderly. By aging, the body suffers changes in several systems including sensory. The hypofunction of the

vestibular system that occurs with the natural aging of its structures is responsible for the postural instability in the elderly and is directly related to the risk of fall.

**Method:** A prospective cohort study was performed under the approval of the CEP / UVA nº 032924/2016 in elderly people without complaints of dizziness, of both sexes, who had no motor difficulties and advanced neuromotor pathologies. The stages of the study were: anamnesis, application of the Dizziness Handicap Inventory (DHI) questionnaire - Brazilian adaptation and assessment of body balance through Timed Up and Go (TUG) - and exercises in the rehabilitation program described by Cawtorne and Cooksey during Ten weeks in weekly meetings.

**Objectives:** to verify possible changes in the DHI and TUG results before and after the completion of the vestibular rehabilitation program (VR).

**Results:** 35 participants were included, but the total of 20 elderly people completed all steps. The population was composed of women with a mean age of 77.3 years. The mean time to perform pre and post RV TUG was 16.7 seconds and 14.2 seconds. The pre-RV DHI was 27.5 points and post-RV 9.1 points.

**Conclusion:** Vestibular rehabilitation is a tool that assists in the promotion of functional recovery of body balance in the elderly population without complaint of dizziness.

### 7833. Diabetic embryopathy concomitant with hearing loss

Ana Elisa Lara de Noronha Souza, Jerusa Roberta Massola de Oliveira, Giuliana Smanioto Delladona, Daila Priscila Mendes, Rosana Ribeiro Manoel

Hospital de Reabilitação de Anomalias Craniofaciais

**Introduction:** Gestational diabetes occurs due to the fact that the pregnant woman does not produce extra and sufficient insulin to attend her vital needs and those of the baby, who could be present diabetic embryopathy and consequences of this physiological abnormality.

**Objective:** to describe the audiological findings found in an individual with a diagnostic hypothesis of diabetic embryopathy.

**Case report:** it is all retrospective and descriptive through the analysis of data from anamnesis, otorhinolaryngological, audiological and genetic evaluation of individuals with diabetic embryopathy diagnosis and with prematurity as a risk factor for hearing loss that presents clinical data from diabetic embryopathy and with otorhinolaryngological data such as atresia of bilaterally external auditory canal and malformation of the right auricular pinna (prominent ear) and audiological with progressive auditory deficiency and currently presenting anacusis to the left and moderate right mixed type.

**Conclusion:** This study suggest the possibility of diabetic embryopathy or its consequences as prematurity provoke hearing impairment, as it was observed a decrease in auditory acuity and auricle anatomical abnormalities, so it is important to alert the professionals who take care of the auditory health to perform the anatomical-functional investigation of the auditory system in the presence of diabetic embryopathy.

**Key words:** gestational diabetes, hearing loss, diagnosis.

### 7836. Learning potential in narrative writing: measuring the psychometric properties of an assessment tool

Léia Gonçalves Gurgel, Caroline Tozzi Reppold, Maria Cristina Rodrigues Azevedo Joly, Mônica Maria Celestina de Oliveira  
UFCSPA

**Introduction:** The Computerized and Dynamic Writing Test (TIDE) is designed to examine the learning potential of adolescents in narrative writing.

**Objective:** The aims was a validation study of the TIDE based on its internal structure.

**Method:** Included 304 participants between 10 and 17 years of age from schools in the South of Brazil. Each participant responded to the TIDE for an average of 50 minutes in the school's computer lab. The participants' selection criteria were: being regularly enrolled

in the fifth to eighth grade and providing an informed consent form signed by a responsible caregiver. The exclusion criteria included: neurological problems, having been held back in school for two or more years, not cooperating, not completing the test for any reason and physical conditions impeding the assessment.

**Results:** The Kendall test indicated agreement between two evaluators, who corrected the participants' first and second texts that resulted from applying the TIDE. The TIDE is divided into three modules. Factor analysis was applied to the first module (pre-test), which revealed a division in two factors, and to the second module (instructional module), which was divided in three factors. The reliability of the TIDE items was verified using Cronbach's Alpha with coefficients greater than 0.7. The analysis of the third module (post-test) was based on McNemar's Test and showed statistically significant results that demonstrated an evolution in the participants' learning potential.

**Conclusion:** The TIDE proved to be valid and is considered a relevant tool for speech, language, hearing, psychological and educational assessment.

### 7838. Training basic healthcare professionals to care for people with disabilities

Ana Carolina Steiner Stüpp, Simone Beatriz Pedrozo Viana, Camila Carolain da Cruz Semioni, Ana Paula Marcelino de Aquino, Adrielly Marconato Durante, Débora Frizzo Pagnossin

Universidade do Vale do Itajaí - Univali

**Objective:** This study reports on the experience of workshops held as part of an extension project aimed at strengthening the care network for people with auditory, physical and intellectual disabilities.

**Method:** A series of workshops were held at the Basic Health Units (UBS) of the municipality of Balneário Camboriú/Santa Catarina, aiming to answer participant's questions about specialized care services for people with disabilities (Serviço Ambulatorial de Saúde Auditiva [Auditory Health Outpatient Service] - SASA and Centro Especializado de Reabilitação em Deficiência Física e Intelectual [Specialized Rehabilitation Center for Rehabilitation in Physical Disability] - CER II of the University of Vale do Itajaí - UNIVALI) and to train professionals for better healthcare, referral and follow-up of people with disabilities.

**Results:** 120 health professionals from 8 UBS took part in the workshops. The project enabled links to be established between the different levels of healthcare for people with disabilities, and gave students in the area of health (physiotherapy, speech and hearing therapy and psychology) practical experience, based on the construction of support networks for people with disabilities.

**Conclusion:** The workshops proved very successful. Among the positive points was the fact that the workshops were run to meet a demand from the UBS themselves. Thus, it was seen that there is a real need to show how the CER and SASA services operate, in order to provide support to professionals. It is believed that professional education leads to consolidation of the healthcare network for people with disabilities.

**Key words:** Healthcare; People with disabilities.

### 7839. Sound pressure measurements in cinema rooms.

Nadia Ruthléia Gaudim, Maria Cristina Alves Corazza, Luíza Alves Corazza, Patrícia Arruda de Souza Alcarás  
Curso de Fonoaudiologia - Universidade do Oeste Paulista - Unoeste

Cinema consists of the technique and art of fixating and reproducing images that give the impression of movement. Sound effects are vital in filmmaking, and it is through music that many of the desired perceptions are experienced. The level of sound pressure obtained during a film presentation can be intense and can be enhanced by the closed ambient acoustic, which might be harmful for the spectators' auditory health. This study, approved by the Research Committee of Unoeste under the number 3113, aimed to measure and analyse the level of sound pressure produced during film exhibitions so to quantify the level of noise to which viewers are being exposed. Calibrated Minipa MSL-1325 Digital Decibelimeter

was used for measuring. Higher levels of sound pressure, in different days and film genres, were achieved during credits presentation, reaching until 102, 5 dB (A). Children films had the highest sound levels, with a medium of 85,4 dB, registering a maximum of 93,2 dB (A), more intense than action films, that had a medium of 81,6 dB(A). Less intense mediums were obtained in romance films, 76,6 dB(A). In conclusion, the level of sound intensity in cinema rooms exceeds the allowed and advised average for safety of auditory health, demanding the need to educate our society and cinema owners in what concerns sound level regulation and preventive care in auditory health, in order to achieve general wellbeing, leisure and rest.

#### **7845. Electroglossography in voice clinic: preliminary findings**

Mariana de Lima Veiga, Domingos Hiroshi Tsuji, Marcia Simões Zenari, Katia Nemr

*Universidade de São Paulo*

**Introduction:** We consider relevant studies that analyze electroglottographic measures in different programs and languages to better understand its use in the voice clinic field.

**Purpose:** To describe and compare electroglottographic measurements in individuals with and without dysphonia and to correlate it with perceptual-auditory and acoustic vocal assessment of patients with dysphonia.

**Method:** Observational cross-sectional study, approved by the Ethics Committee. Thirty-one patients with otorhinolaryngological diagnosis of dysphonia and 23 volunteers, with no complaints and no vocal-perceptual-auditory alterations who underwent voice recording, perceptual-auditory vocal and acoustic analysis. Electroglottographic measures were extracted: opening and closing quotients. The Mann-Whitney and Spearman Correlation tests were used to compare the groups and analyze the correlations between the assessments.

**Results:** The means of electroglottographic measurements of sustained vowels and vowel in the carrier phrase did not show any difference between the groups. No correlation was observed between the electroglottographic measurements and other variables of perceptual-auditory and acoustic analysis in the dysphonia group. In both groups, a correlation was observed between electroglottographic closure and vocal fold opening measurements, and this correlation was greater in the group without dysphonia.

**Conclusion:** There was no difference in the electroglottographic measurements between the groups, no correlation was observed between electroglottographic measures and data of perceptual-auditory and acoustic assessment in the group with dysphonia. There was a correlation between electroglottographic measures, mainly in the group without dysphonia, showing a greater phonatory balance in the individuals without vocal alteration. The research will have continuity involving larger sample.

#### **7847. Evaluation of sound pressure levels produced by high rotation pens**

Jessika Oliveira Felipe, Luíza Alves Corazza, Maria Cristina Alves Corazza, Patrícia Arruda de Souza Alcarás

*Curso de Fonoaudiologia - Universidade do Oeste Paulista - Unoeste*

Dentists' workplace require various biohazard safety measures, including those related to noise exposure, for many of their equipment produce intense noise and, in addition, are positioned close to the professional's ears. This exposure may cause irreversible High Sound Pressure Noise Induced Hearing Loss, with progression liable on both time of exposure to noise and no use of hearing protection. This study, without human participation, approved by the CAPI of Unoeste under the ID 3063, aimed to analyse the sound pressure levels produced by high rotation pens. Two types of pen, composed by different metals and alloys, were evaluated using Digital Minipa MSL-1325 Decibelimeter. Measuring was developed in two different contexts: in a silent workplace or amongst other active equipment, in various materials (teeth, resin, metal and porcelain). Both pens produced higher sound pressure levels than referred in their instruction booklets. The medium of values when in silence,

without contact to materials as porcelain, teeth, resin and metal was 79, 73 dB (A) for pen n°1 and 77, 77 dB (A) for pen n°2. With other equipment were active as well, values rose to 87,8 dB (A) and 80,7 dB (A), respectively, n°1 and n°2. When referred materials were involved, values surpassed the level preconized by law for an eight-hour daily working shift, that of 85dB NPS. In conclusion, the older technology pen, in aluminium (pen n°2), showed itself less noisy and kept a more steady sound level in the different materials evaluated.

#### **7848. Voice quality, self-perception and quality of life and voice of individuals with dysphonia**

Ariane dos Reis Cota, Katia Nemr, Marcia Simões Zenari, Domingos Hiroshi Tsuji

*Universidade de São Paulo*

**Introduction:** The self-perception of the patient with dysphonia and the impact of this disease on the quality of life should be considered in the vocal assessment.

**Purpose:** To investigate correlations between vocal quality, self-perception and quality of life of voice with dysphonia.

**Methods:** Observational cross-sectional study, approved by the Ethics Committee. Two hundred individuals with dysphonia participated. After laryngoscopy, they answered three questionnaires of self-perception and quality of life and recorded their voices for perceptual-auditory and acoustic analysis. The analysis used Spearman and Kruskal-Wallis correlation tests.

**Results:** Most of the patients presented a laryngeal diagnosis classified as organic dysphonia (79.5%) and were female (62%); Mean age 49 years. The mean of vocal deviation was 59.54 (moderate); greater incidence of Roughness (mean 54.74, moderate). All patients presented at least one altered acoustic vocal aspect, highlighted for noise in the low frequencies (96.5%). The means of the protocols were: Dysphonia Risk Screening Protocol (DRSP) 44.7; Voice-related quality of life questionnaire (V-RQQOL) 57,1; Voice Handicap Index (VHI-10) 16.1. There was an inverse correlation between quality of life and degree of deviation, as well as correlation between VHI-10, DRSP and degree of deviation.

**Conclusion:** The greater the vocal deviation, the greater the vocal disadvantage and the risk for dysphonia, assuring the interrelation between vocal quality, self-perception and quality of life. The Dysphonia Risk Screening Protocol was associated with increasing degree of deviation, reinforcing its applicability in different laryngeal diagnoses.

#### **7852. Temporal ordering and temporal resolution abilities in a group of university students**

Beatriz Zavanella, Natalie Stefani Dias Cobello Costa, Ana Claudia Vieira Cardoso, Camila Ribas Delecrode

*Universidade Estadual Paulista Júlio de Mesquita Filho, Câmpus de Marília*

**Introduction:** There is evidence that temporal auditory processing is a parameter for speech perception, for this to happen it is necessary the processing of acoustic cues of frequency, intensity and time.

**Objective:** To characterize and compare the performance of university students in temporal ordering and temporal resolution tests.

**Methods:** This was a cohort, comparative, transversal and prospective study. The sample consisted of 25 normal hearing university students without hearing complaints, aged between 18 and 25 years. To assess temporal ordering ability were used the Pitch Pattern Sequence (PPS) Test and Duration Pattern Sequence (DPS) and, temporal resolution ability the Random Gap Detection Test (RGDT) and the Gap in Noise (GIN).

**Results:** The analysis of temporal ordering tests showed that the mean number of correct answers was greater than 93% in PPS and, 95.8% in DPS; the comparison showed no significant difference between the tests performance, however it was observed that PPS seems to be more sensitive. In temporal resolution ability, it was observed that the average threshold for the RGDT was 7.20

milliseconds and, for the GIN, it was 5.52 milliseconds and; the comparison showed no significant difference in the tests results, however the RGDT showed greater sensitivity.

**Conclusion:** University students presented a good performance in this evaluation and, it was noticed that in the comparison of the performance between the tests that evaluate the same ability there was no difference.

**Key words:** Auditory perception. Hearing tests. Hearing. Young adults.

#### 7853. Figure-background for verbal sounds and temporal resolution abilities on elderly

Natalie Stefani Dias Cobello Costa, Camila Ribas Delecrode, Ana Claudia Vieira Cardoso, Beatriz Zavanella, Amanda Venuti Cerqueira  
Unesp- Universidade Estadual Paulista "Júlio de Mesquita Filho"

**Introduction:** The elderly population presents complaints related to speech comprehension, not justified by audiometric thresholds within normal patterns. One of the possible explanations for this difficulty is some change in auditory abilities involved in central auditory processing.

**Objective:** To describe and compare the abilities of figure-background for verbal sounds and temporal resolution of a group of normal hearing elderly.

**Methods:** Cross-sectional and descriptive study. The sample consisted of 36 elderly, aged between 60 and 77 years (mean of 68.36), 17 males and 19 females. To evaluate figure-background for verbal sounds ability was applied the Dichotic Digit Test (DDT), on binaural integration step, and; for temporal resolution was applied the Random Gap Detection Test (RGDT).

**Results:** The analysis of the data showed that the majority of the elderly presented performance within normal patterns, 86% for DDT and, 72% for RGDT. Only 5% of the elderly had altered results in both tests.

**Conclusion:** This population showed a good performance in both abilities assessed, however it was observed a higher rate of alteration in temporal resolution ability.

**Key words:** elderly, auditory perception, hearing.

#### 7860. Dysphonia and medications

Ariana Di Carlos Silva, Katia Nemr, Marcia Simões Zenari  
Universidade de São Paulo

**Introduction:** More evidence on vocal repercussions caused by medications will lead to better multiprofessional procedures in dysphonia.

**Purpose:** To analyze the association among adverse effects of medications used by patients with dysphonia, vocal symptoms and aspects related to hydration and smoking.

**Methodology:** Retrospective and cross-sectional study, approved by Ethics Committee, with analysis of medical records of 106 patients in the beginning of speech therapy. We included all patients who declared continued use of drugs that, according to the label, could interfere in the voice. We analyzed associations between adverse drug effects, symptoms, hydration and smoking; data were collected using the Dysphonia Risk Screening Protocol.

**Results:** 55 out of 106 patients (51.9%) indicated continued use of medications. It was reported 73 active principles considered of direct effects (hoarseness, loss of voice, among others) and indirect (xerostomia, shortness of breath, among others). The most frequent vocal symptoms were: dry throat (69.1%), hoarseness (67.3%), voicelessness (67.3%), vocal fatigue (65.5%) and hawking (65.5%). Most patients reported sufficient hydration and low contact with smokers; Two patients smoked. Direct adverse effects were associated to dry throat ( $p = 0.05$ ) and shortness of breath ( $p = 0.05$ ), but not to lack of hydration or smoking.

**Conclusions:** Frequent self-reported vocal symptoms of dysphonic patients were associated to the continued use of medications regardless hydration and smoking. This finding should be considered in future studies and also by professionals who attend patients with voice disorders, due to possible impact on therapeutic achievements and patients' quality of life.

#### 7863. Adaptation of speech valve in child with spinal cord injury

Jordana da Silva Freitas, Gabriela da Cunha Pereira, Ana Clara Kettl dos Santos, Letícia Kurtz, Ana Claudia de Oliveira, Letícia Wolff Garcez  
Grupo Hospitalar Conceição

**Introduction:** Spinal cord trauma is an external caused injury in the spinal cord and leads to motor and sensory alterations. Tetraplegia comes up from lesions between the first and seventh cervical vertebrae. The speech valve allows the air to be exhaled by the upper airways, this mechanism allows the oral communication of the tracheostomized patient, facilitates the management of secretions through the training of the laryngeal function, reducing the need for aspirations.

**Objective:** To report the process of speech valve adaptation in a quadriplegic child due to spinal cord trauma.

**Resumed report:** Child with one year and eight months, quadriplegic due to spindle trauma, fracture in C2-C5 by stretching, with tracheostomy, using invasive mechanical ventilation. In process of adaptation with passy muir valve, model 007 for mechanical ventilation. That was realized seven training sessions with deflated cuff and peep equal to 0, showed lack of oxygenation and signs of air entrapment. After modified patient sitting position, using rigid vest and parameters of ventilator changed to peep of 3, greater expiratory time and lower respiratory rate, it allows the tolerance of the valve for a longer time, no longer showing signs of air entrapment.

**Conclusion:** During the period using the valve, can be observed vocalizations of monosyllables and disyllabic, better handling of cough and the swallowing of secretions and saliva. The adaptation of this device aims to contribute to an improvement in breathing, phonation and deglutition mechanisms, directly impacting in the life quality of the patient.

#### 7866. Myofunctional therapy before orthognathic surgery in patients with orofacial myofunctional disorders: a series of cases

Léia Gonçalves Gurgel, Edela Puricelli, Renan Cavalheiro Langie, Sheila Tamanini de Almeida, Chênia Caldeira Martinez  
Santa Casa de Misericórdia de Porto Alegre

**Introduction:** Myofunctional therapy associated with dental treatment (Orthodontics and Oral and Maxillofacial Surgery) produces shorter intervention time and reduction of the risk of recurrence of skeletal abnormalities.

**Objective:** To evaluate the benefits of preoperative myofunctional therapy in the surgical correction of facial skeletal anomalies with orthognathic surgery.

**Methods:** The authors present a eight cases series, composed of 8 patients, followed at the Santa Casa de Misericórdia de Porto Alegre Hospital, Brazil. At the preoperative period, an interview and analysis of medical records were performed. At the initial and final periods of the myofunctional therapy, the orofacial myofunctional evaluation with scores (OMES) protocol was applied. Myofunctional therapy included: guidance for patients; techniques to improve posture, toning and mobility of stomatognathic structures and functions (isometric, isotonic, and functional exercises, massages, stretching, thermotherapy, cryotherapy and orofacial elastic therapeutic tape). Sessions were weekly or biweekly, 40 minutes, and were performed by a speech therapist.

**Results:** Study sample (N=8) consisted of 7 female and 1 male patient, with a mean age of 32 years, ranging from 25 to 40 years. The number of myofunctional therapy sessions varied according to each case (mean of 16). At the initial period, before myofunctional therapy, the mean OMES score was 82.5 points. After the myofunctional therapy, was 94 points.

**Conclusion:** The data point to the normality of stomatognathic structures and functions after myofunctional therapy, suggesting the effectiveness of myofunctional therapy previous to before orthognathic surgery when associated with multidisciplinary dental care, including Orthodontics and Oral and Maxillofacial Surgery specialties.

**7867. Case report: myofunctional therapy follow up before and after orthognathic surgery**

Léia Gonçalves Gurgel, Renan Cavalheiro Langie, Mário Alexandre Morganti, Edela Puricelli, Chenia Caldeira Martinez, Sheila Tamanini de Almeida

*Irmandade Santa Casa de Misericórdia de Porto Alegre*

**Introduction:** Myofunctional therapy and Orthodontics interventions are essential before and after maxillofacial surgeries for correction of facial skeletal discrepancies (orthognathic surgery).

**Objective:** To evaluate the rehabilitation process in a case of orthognathic surgery, evince the importance of a team work intervention.

**Resumed report:** The authors present a case carried out at the Dental Center of the Santa Casa de Misericórdia Hospital, Brazil, followed up by teams of Speech Therapy, Orthodontics and Oral and Maxillofacial Surgery. Female, 25 years old, with skeletal type III malocclusion and diminished tonus of orofacial musculature. It was carried out ten weekly myofunctional therapy sessions before surgery, and 16 weekly and biweekly sessions after surgery until case conclusion. At the preoperative period, patient scored 85 points on OMES protocol, since there was adequacy of posture, tonus and mobility of the tongue. At the postoperative period, a 96-point score was obtained, once that the previous therapeutic findings were maintained, as well as it was observed also an improvement of sensitivity in the lower lip and chin, as well as reduction of facial edema in a short postoperative period. At the third period, postoperative period up to case conclusion, the patient obtained a 98-point score, and adequacy of stomatognathic structures and functions. Maxillofacial surgical planning involved bilateral sagittal osteotomies of mandible (Puricelli). Preoperative orthodontic treatment contemplated dental decompensation in horizontal, vertical and sagittal planes.

**Conclusion:** The case report suggests the effectiveness of myofunctional therapy when associated with multidisciplinary dental work, such as Orthodontics and Oral and Maxillofacial Surgery.

**7868. Coverage of the newborn hearing screening program in intensive care unit**

Angélica Tiegs, Luis Fernando Pineda Gonzalez, Ana Carolina Valentim de Medeiros, Maria Francisca Colella dos Santos, Thais Antonelli Diniz Hein

*Universidade Estadual de Campinas*

**Introduction:** Universal Newborn Hearing Screening Program, which is the analysis of at least 95% of the newborns, should be preconized mainly in neonatal Intensive Care Units, once these neonates present a higher incidence of hearing loss, aiming a better prognosis for child development.

**Objectives:** To analyze hearing screening in newborns that remained in Intensive Care Unit and Intermediate Care.

**Methods:** Transversal and observational study. We analyzed the data bank from the Newborn Hearing Screening of the Intensive Care Unit and Intermediate Care from the Centro de Atenção Integral à Saúde da Mulher, by means of Auditory Brainstem Response, from January, 2014 to December, 2016. Newborn Hearing Screening process is developed by the team speech-language pathologist, along with residents and tweakings from the institution. Data was registered in a bank and analyzed statistically.

**Results:** 1398 newborns composed the sample. In 2014, there was a coverage of 80% of newborns in screening, while in 2015 and 2016, the coverage was 95% and 92%, respectively. During the 3 years of research, 9,4% of newborns were submitted to retesting procedures and 7% were referenced to the diagnosis.

**Conclusions:** In the last years, the coverage of Newborn Hearing Screening was universal, with an expected failure index and reference to diagnosis. Therefore, we highlight the importance of the daily presence of speech-language pathologists in screening-performing centers, aiming an universal coverage in this sense.

**Key words:** hearing loss, hearing tests, screening, newborn.

**7869. Case report: clinical evolution after myofunctional therapy in a patient with goldenhar syndrome**

Léia Gonçalves Gurgel, Mário Alexandre Morganti, Edela Puricelli, Renan Cavalheiro Langie, Sheila Tamanini de Almeida, Chenia Caldeira Martinez

*Irmandade Santa Casa de Misericórdia de Porto Alegre*

**Introduction:** Goldenhar syndrome is a rare congenital defect, characterized by incomplete development of the ear, nose, palate, lips and jaw.

**Objective:** To analyze the effects of orofacial myofunctional therapy in an adult patient with Goldenhar syndrome.

**Resumed report:** The authors present a case of an adult male patient, followed in the Santa Casa de Misericórdia de Porto Alegre Hospital, Brazil, by Speech Therapy, Orthodontics and Maxillofacial Surgeon. The patient, male, 28 years old. At the initial evaluation, the patient had a score of 70 points in OMES protocol due to severe facial asymmetry, difficulties in mobility of the lips, tongue and mandible, and abnormal tonus of the tongue. Patient had also preferential unilateral chewing and phonetic disorder related to the production of the non-lateral liquid phoneme /r/ in medial and final coda positions. After 16 weekly therapeutic sessions, an OMES score of 88 points was obtained, indicating improvement in tonus and mobility of lips and tongue, as well as slight improvement in facial asymmetry. As to stomatognathic functions, it was observed mastication and speech normal abilities. Myofunctional therapy sessions were weekly or biweekly, lasting 40 minutes, and were performed by a speech therapist. Orthodontic treatment was carried out through fixed metallic appliance (straight wire system). Maxillofacial surgical planning involved several phases including sagittal osteotomies of mandible (Puricelli technique).

**Conclusion:** The evolution of the case suggests the effectiveness of myofunctional therapy intervention, especially when associated with multiprofessional approach, including the dental areas of Orthodontics and Oral and Maxillofacial Surgery.

**7870. Hyoid kinematics modification after oropharyngeal dysphagia rehabilitation in case of wallenberg's syndrome**

Carla Rocha Muniz, Mariana Ribeiro Lopes Neves, Thalyta Georgia Vieira Borges, Yonatta Salarini Vieira Carvalho, Fernanda Cristina de Oliveira Rocha, Charles Henrique Dias Marques, Mariana Pinheiro Brendim  
*Universidade Federal do Rio de Janeiro*

**Introduction:** Oropharyngeal dysphagia occurs in 51-94% of patients with Wallenberg's syndrome.

**Objectives:** To compare the changes in the hyoid movement, as well as the possible repercussions in the upper esophageal sphincter (UES) opening, after rehabilitation.

**Resumed reported:** Female, 74 years old, admitted with tube feeding and severe difficulty in swallowing, general weakness and vertigo. Videofluoroscopic swallowing study (VFSS) evidenced multiple and ineffective swallowing, stasis in pharyngeal recess, grades 2 and 4 of penetration (Penetration-aspiration Scale), reduction in vertical and horizontal excursion of hyoid bone and restrict UES opening. Parameters analysis (millimeters) of two deglutitions before and after rehabilitation: Vertical excursion ( $1.2 \pm 1.6$  /  $3.5 \pm 3.6$ ), ( $3 \pm 0.7$  /  $3.2 \pm 1.4$ ); horizontal excursion ( $0.2 \pm 0.2$  /  $2.7 \pm 2.2$ ), ( $5.6 \pm 4.8$  /  $9.2 \pm 2.3$ ); UES opening (None /  $1 \pm 1.3$ ), ( $6.3 \pm 2.5$  /  $10 \pm 0$ ). Moderate positive correlation between horizontal excursion and UES opening after therapy ( $r=0.5$ ), with higher impact in swallowing safety. The results showed that the main alterations affected the pharyngeal phase. However, the therapy contemplated also the oral phase, due to transitional events between the phases such as the oral ejection and the UES opening. The rehabilitation was performed during hospitalization and it was based on traditional therapy associated with neuromuscular electrical stimulation. The main rehabilitation outcomes were: absence of penetration/aspiration during swallowing through VFSS and exclusive oral nutrition.

**Conclusion:** In this case, after intervention process, it was observed a significant improvement in the horizontal excursion, reflecting positively in the UES opening and allowing the safe reestablishment of the oral feeding.

**Key words:** Deglutitions Disorders, Lateral Medullary Syndrome, Wallenberg's Syndrome.

**7877. Perceptual-auditory and acoustic voice analysis and****voice quality of life in women with Reinke's edema**

Ana Bonelli, Domingos Hiroshi Tsuji, Marcia Simões Zenari, Katia Nemr

*Universidade de São Paulo*

**Introduction:** Understanding the impact of Reinke's edema on patient's quality of life and its relation to the degree of severity of dysphonia may contribute to the conduct of therapeutic processes.

**Purpose:** To correlate clinical, acoustic and quality of life variables in voice of patients with Reinke's edema.

**Methods:** Retrospective and transversal research, approved by the Ethics Committee. Data were collected from questionnaires and vocal assessment in the patient's records of 85 women with Reinke's edema.

**Results:** Mean age was 57.4 years. Exclusive diagnosis of Reinke's edema in 59 (69.4%) patients. Among the 26 (30.6%) who presented comorbidities, the presence of polyp (6), leukoplakia (5) and laryngopharyngeal reflux (3) were noted. Average general grade of vocal deviation 70.80, being roughness and pitch aggravated the most present alterations. The harmonic series was altered in 82 (96.5%) patients. From the Phonological Deviation Diagram we observed: Quadrant 1 or Normal - 31 patients (36.5%), Quadrant 2 - 28 (32.9%), Quadrant 3 - 20 (23.5%) and Quadrant 4 - 6 (7.1%). There were negative correlations between the general degree of vocal alteration and quality of life in voice, fundamental frequency, harmonic-to-noise ratio and frequency of definition of harmonics. There were positive correlations between general degree of vocal alteration and jitter, shimmer, roughness, strain, pitch and instability.

**Conclusion:** Findings are relevant for the deepening knowledge for professionals involved with this disorder at the pre or post-surgical time.

**7879. Event-related potentials (p300) and vagal control of heart rate dynamics after executive language test**

Viviane Borim de Góes, Vitor Engrácia Valenti, Ana Claudia Frizzo, Anna Caroline Silva de Oliveira

*UNESP - FFC - Faculdade de Filosofia e Ciências/Campus de Marília-SP*

**Introduction:** The processing of information is key item for social function, it allows the individual to understand the language. Executive test language can modify the performance of event-related potentials (P300) and vagal control of heart rate.

**Objective:** To associate the event-related potentials (P300) and the parasympathetic heart rate modulation after executive test language.

**Method:** Ethics Committee (1.804.034). The study was conducted in 13 healthy women between 18 and 30 years. In the pre-test phase, the heart rate was recorded concomitantly with the P300 with binaural stimulus and oddball paradigm 1KHz/ 2KHz. Thereafter, the subject test phase seven will hold the semantic verbal fluency test and six subjects hold the phonological verbal fluency test. The post-test phase was held using the same protocols described in the pre-test phase. Registration and analysis of the component were analyzed and correlated with the RMSSD and pNN50 Heart Rate Variability indices. The comparison between pre-test phase and post-test language will be done.

**Results:** There was a weak, negative and non-significant correlation before the language test, which was small and without significance after the language test, but positive between the P300 with the RMSSD and pNN50 indices. It was also observed that there was a difference in the amplitude of the P300 after language test, showing an increase of the same.

**Conclusion:** There was no association between P300 with parasympathetic heart rate modulation after executive language test, however, there was a difference in P300 amplitude, observing its increase.

**Key words:** Hearing, Autonomic Nervous System, Cardiovascular System.

**7880. Dichotic sentences identification test and adapted****time-compressed speech test: a comparison study and****influence analysis**

Taissane Rodrigues Sanguebuche, Michele Vargas Garcia, Bruna Pias Peixe, Brenda Pasqualotto, Caroline Brigo Palmero

*Universidade Federal de Santa Maria*

**Introduction:** The battery of behavioral tests is extremely important in the diagnosis of auditory processing disorder. It is known that each test has the purpose of evaluating predominantly an auditory ability; however, it is difficult to know how one skill is influenced by the other.

**Objective:** To compare the results of two behavioral tests and identify the influence of the ability of auditory closure on the figure-background ability for verbal sounds.

**Method:** The sample consisted of 27 subjects, being 19 female and eight male. The eligibility criteria used were: age between 18 and 59 years, bilaterally normal auditory thresholds, tympanometric curve type "A" and absence of evident neurological and / or psychiatric impairment. All the subjects underwent the basic audiological evaluation, Dichotic Sentences Identification Test, aiming to evaluate the ability of figure-background for verbal sounds and Adapted Time-Compressed Speech Test, with the purpose of evaluating the ability of auditory closure.

**Results:** The 27 subjects presented normality in the Dichotic Sentences Identification Test. Of these, 12 presented alterations in the Adapted Time-Compressed Speech Test. These results demonstrate that the figure-background auditory ability for verbal sounds is not influenced by auditory closure ability in the tests used, given the disparity between "normal" and "altered" subjects.

**Conclusion:** When comparing the behavioral test results, it was possible to identify the absence of influence of the auditory closure ability on the figure-background ability for verbal sounds.

**7885. Frequency-Following Response with speech stimulus: comparison between adults and elderly**

Bruna Pias Peixe, Taissane Rodrigues Sanguebuche, Brenda Pasqualotto, Michele Vargas Garcia, Caroline Brigo Palmero

*Universidade Federal de Santa Maria*

**Introduction:** The Frequency-Following Response with speech stimulus (FFR-speech), a potential that evaluates the structures responsible for speech processing, has been extensively studied and used as a complementary evaluation of auditory processing. It is understood that there may be an increase in wave latencies of the elderly population when compared to the adult population.

**Objective:** To compare the FFR-speech latencies between adults and elderly using the "Smart EP" equipment.

**Method:** The sample consisted of 20 subjects, 10 normal hearing adults aged between 19 and 30 years old and 10 normal hearing or presenting hearing loss until moderate, aged between 60 and 70 years old. In addition, the study included subjects presenting: tympanometric curve type "A" and absence of evident neurological and / or psychiatric commitment. All subjects underwent basic audiological evaluation and FFR-speech. The same was in the Intelligent Hearing Systems "Smart EP" equipment, with the stimulus /da/ of 40ms, in the intensity 80dBnHL, with an insertion phone, only in the right ear, the wave marking (V,A,C,D,E,F and O) of the FFR-speech was performed on the resulting wave.

**Results:** The mean latency of the adults were: peak V:6.16ms; valley A:7.78ms; valley C:17.28ms; valley D:23.00ms; valley E:31.51ms; valley F:39.35ms and O:48.37ms. For the elderly group, the following latency values were found: peak V:7.98ms; valley A:10.53ms; valley C:17.68ms; valley D:25.33ms; valley E:33.98ms; valley F:43.46ms and valley O:51.97ms.

**Conclusão:** It was possible to observe an increase of the latency in the elderly population, when compared to the adult group, in the "Smart EP" equipment.

**7889. Scale of auditory behaviors: adaptation and application of the questionnaire in normal hearing adults**

Taissane Rodrigues Sanguebuche, NaTânia Silva de Pietro, Bruna Pias Peixe, Brenda Pasqualotto, Michele Vargas Garcia, Caroline Brigo Palmero

Universidade Federal de Santa Maria

**Introduction:** It is extremely important, increasingly, to use behavioral questionnaires as an aid in the evaluation of auditory processing. It is not enough just to acquire quantitative data, it is important to infer how the disorder influences the quality of life of the subject. However, it is still difficult to find instruments to identify complaints related to auditory processing, especially in the adult population.

**Objective:** To adapt the Scale of Auditory Behaviors to the adult population, verify its applicability, and compare its scores with the literature.

**Method:** The eligibility criteria used were: age between 18 and 59 years, bilaterally normal auditory thresholds, tympanometric curve type "A", normality in a complete battery of auditory processing tests and absence of evident neurological and / or psychiatric impairment. Regarding the adaptation of the instrument to the assessed age range, only the question related to academic activities was withdrawn (question 9), remaining 11 that should be completed in "frequent", "almost always", "sometimes", "sporadic", "never" according to the complaint.

**Results:** The sample consisted of 30 subjects, with a mean age of 25.6 years, of which 22 were female and eight were male. The mean scores found for the adult population were 40, suggesting that values lower than this may indicate a risk situation for auditory processing disorder. This value was lower than that found in the scholar population (46 scores).

**Conclusion:** It was possible to adapt the instrument, which proved to be easy to apply. The adult population had a lower score than the students.

**7892. Newborn hearing screening: risk indicator results and analysis**

Ana Carolina Valentim de Medeiros, Luis Fernando Pineda Gonzalez, Maria Francisca Colella dos Santos, Thais Antonelli Diniz Hein, Angélica Tiegs

Universidade Estadual de Campinas

**Introduction:** Newborns who presented risk indicators for hearing loss need a differentiated follow-up, since they present a higher incidence of hearing loss and delay in auditory abilities development.

**Objectives:** To analyse the results from the hearing screening, as well as the risk indicators for hearing loss in newborns that remained in Intensive Care Units and Intermediate Care.

**Methods:** Transversal and observational study. We analysed the data bank from the Newborn Hearing Screening of the Intensive Care Unit and Intermediate Care from the Centro de Atenção Integral à Saúde da Mulher, from January, 2014 to December, 2016. Data was registered in a bank and analysed statistically.

**Results:** In a population of 1250 newborns, a 2,88% screening retest failure incidence was observed (38.9% unilateral and 61.1% bilateral). According to the analysis of the newborn who failed and had risk indicators, we observed that: premature newborn (71.43%, p<0.001), more-than-5-day Intensive Care Unit permanence (66.67%; p<0.001), mechanical ventilation (38.10%, p<0.001), ototoxic and diuretic medication use (35.00%, p<0.001), small for gestational age (28.57%; p<0.001) and <1500g weight at birth (20.00%; p<0.001) were the most prevalent risk indicators.

**Conclusions:** The hearing screening results are in accordance with what is preconized by auditory health committees. The most frequent risk indicators in newborns that failed hearing screening are directly related to Intensive Care Unit and Intermediate Care stay.

**Key words:** hearing loss, risk indicator, newborn.

**7894. Use of drugs during pregnancy and neonatal hearing screening**

Mateus Belmonte Macedo, Eduarda Oliveira Cunha, Cristina Loureiro Chaves Soldera, Márcia Salgado Machado, Andressa Ortiz Birck, Stefanie Kuhn Benvenutti

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Drug use during pregnancy can lead to low birth weight, reduced head circumference, retarded neuropsychomotor development, sensory asymmetries and hearing loss. The prevalence of the use of these drugs during pregnancy is difficult to estimate, since this data is usually omitted by pregnant women. In this way, their identification as an indicator of risk for hearing loss is an aspect to be clarified.

**Objective:** To describe the results in neonatal hearing screening performed using transient evoked otoacoustic emissions obtained in neonates exposed to drug use during pregnancy.

**Methods:** This is a cross-sectional study carried out by analyzing the charts of neonates hospitalized in a neonatal intensive care unit of a philanthropic hospital. Data on the use of crack and / or cocaine and / or other drugs by mothers during gestation, as well as the results of neonatal hearing screening performed with the transient evoked otoacoustic emission test in both ears were analyzed.

**Results:** Of the 257 newborns whose medical records were analyzed, 24 (9.33%) neonates with records of drug use in the gestational period were found. Of these, three (12.5%) failed hearing screening. It was not possible to access the data regarding the definitive audiological diagnosis performed in the network of high complexity.

**Conclusions:** The data obtained demonstrate a high failure rate in hearing screening, which demonstrates the need for large-scale studies to clarify the subject.

**Key words:** newborn, hearing loss, drug effects.

**7898. Comparison between implementation time of the voiced high frequency oscillation and laxvox in health subjects immediate effects: self-assessment and acoustic analysis**

Angélica Emygdio da Silva Antonetti, Heitor Marques Honório, Pâmela Aparecida Medeiros Moreira, Vanessa Veis Ribeiro, Kelly Silverio, Alcione Ghedini Brasolotto

Faculdade de Odontologia de Bauru-Universidade de São Paulo

**Introduction:** Semi-Occluded Vocal Tract Exercises aim increase vocal economy, make easier vocal source and filter relation, resulting in lower phonation thresholds pressure. There aren't studies which describes the use of Voiced High Frequency Oscillation (VHFO) in the speech pathology therapy.

**Objectives:** Verify the VHFO immediate effects and compare it with LaxVox at the vocal/laryngeal symptoms intensity and acoustic measures, after different implementation times in health subjects.

**Methods:** 15 men and 15 women without voice disorders. They recorded sustained vowel /a/ and answered an self-assessment about vocal/laryngeal intensity symptoms before and after one and three minutes of both techniques (random order, 7 days of interval). Statistic analysis by means of ANOVA with three criteria ( $p<0.05$ ) and Tukey Test.

**Results:** The VHFO decreased "Constriction" symptom ( $p=0.040$ ) after one and three minutes in women; such as men after LaxVox. All volunteers had "Itchiness" ( $p=0.014$ ), "Throat Irritation" ( $p=0.014$ ) and "Lump in the Throat" ( $p=0.021$ ) symptoms decreased after one minute of both techniques. Only men decreased "Lower Voice" ( $p=0.024$ ) after one minute, keeping it after three minutes of both techniques. Both techniques decreased shimmer ( $p<0.001$ ) and Voice Turbulence Index ( $p=0.002$ ) after one minute; increased Soft Phonation Index ( $p=0.028$ ) after three minutes, in both genders. The VHFO decreased fundamental frequency variation ( $p=0.049$ ) in women between one and three minutes and men starting one minute.

**Conclusion:** Both techniques are similar with positive results after one minute. For women and men, VHFO was enough to reduce fundamental frequency variation.

**Key words:** Vocal Training; Semi-Occluded Vocal Tract Exercises; Acoustic; Self-Assessment.

**7901. Comparision between implementation time of the voiced high frequency oscillation and laxvox at the maximum phonation time of health subjects**

Angélica Emygdio da Silva Antonetti, Heitor Marques Honório, Pâmela Aparecida Medeiros Moreira, Alcione Ghedini Brasolotto, Kelly Silverio, Vanessa Veis Ribeiro

Faculdade de Odontologia de Bauru-Universidade de São Paulo

**Introduction:** The Semi-Occluded Vocal Tract Exercises Vocal Tract Exercises aim increase vocal economy, make easier vocal source and filter relation resulting in lower phonation thresholds pressure, besides improve myoelastic and aerodynamics balance. There aren't studies which describes the use of High Frequency Oscillation in the speech pathology therapy.

**Objectives:** Verify the Voiced High Frequency Oscillation immediate effects and compare it with LaxVox at the Maximum Phonation Time, after different implementation times in health subjects.

**Methods:** 30 volunteers (aged between 18 and 45 years old), without dysphonia history, we divided them into two groups: 15 women (mean=23,13 years old) and 15 men (mean=24,13 years old). All of them recorded the Maximum Phonation Time /a/, /s/, /z/ and number counting after and before one and three minutes of both techniques (random order, 7 days of interval). Statistic analysis by means of ANOVA with three criteria ( $p<0,05$ ) and Tukey Test.

**Results:** After one minute there was reduction of Maximum Phonation Time /a/ ( $p=0,044$ ) in both techniques and both genders. There was an increase in Maximum Phonation Time /s/ ( $p=0,027$ ) and /z/ ( $p=0,009$ ) after the third minute of implementation in both techniques and genders; Maximum Phonation Time number counting increased ( $p=0,046$ ) as well, after three minutes only in men and after both techniques.

**Conclusion:** Both techniques, High Frequency Oscillation and LaxVox, have similar effects at the Maximum Phonation Time after the third minute of implementation. Nevertheless the Maximum Phonation Time /a/ decreased.

**Key words:** Vocal Training; Semi-Occluded Vocal Tract Exercises; Maximum Phonation Time.

**7902. The relation between mouth opening and oral neoplasia features**

Daniella Priscila Ferracioli Batista, Maria Fernanda Bagarollo, Mirian Hideko Nagae

University of Campinas

**Introduction:** trismus, a mouth opening restriction, has been occasionally detected in the beginning of the diagnosis of mouth neoplasias and may have a relation with tumor location and stage.

**Objective:** assess the features of oral neoplasms in cases where trismus is present.

**Methods:** retrospective descriptive study. For the study, 100 charts were analyzed of both male and female patients diagnosed with mouth cancer, age range from 25-70 years old. Sixteen patients with trismus complaint were selected with inclusion and exclusion criteria. From these 16, only seven had the mouth opening measures reported. The selected cases were described according to data, such as initial complaint as the trismus, tumor characteristics, and mouth opening measures. This study was approved by the ethics committee under the number 1.145.480.

**Results:** the most recurrent histological type of cancer was Spinocellular Carcinoma. Mouth opening ranged from 10-20 mm, with tumor stage T4, exhibiting partial damage to the muscles of mastication. In case with maximum mouth opening ranging 20-30 mm, tumor stage was T2-T4, located in masticatory regions and retromolar trigone.

**Conclusion:** trismus is an observed sign in oral neoplasia when the affected area is extended. Thus, trismus may indicate advanced mouth cancer, not being considered an initial/preventive symptom. We highlight the importance of evaluating mouth opening in all stages of mouth cancer, especially at the end of the treatment.

**Key words:** trismus, mouth neoplasms, tomography.

**7903. Welcoming in the ambulatory audiology of children with microcefalia**

Tatiane Lisboa de Souza, Raphaela Barroso Guedes Granzotti, Barbara Cristina da Silva Rosa

Universidade Federal de Sergipe/Campus Lagarto

**Abstract:** In Brazil, a growth in the prevalence of microcephaly at birth was observed in 2015. The health services should be prepared to receive this population, creating a relationship of trust and bond between the user and the health team.

**Objective:** To report the experience of the ambulatory deployment of audiology in children with microcephaly.

**Method:** This research was approved by the Ethics Committee (CAAE 60049216.1.0000.5546) of the University. It was applied a semi-structured questionnaire with mothers that have children with microcephaly, treated in the audiology ambulatory of children with microcephaly, which went through audiological tests.

**Results:** The mean age of mothers 24,1 years old, 1,45 children; 45,5% finished high school, 72,2% are housewives, 100% think that their children hear. About pregnancy period, 54,5% showed complications, 90,9% did prenatal, 63,6% received microcephaly diagnostic before child-birth, 45,5% were notified in the hospital environment about auditory tests. Regarding the feelings mentioned by the mothers during the diagnosis of microcephaly the most recurrent were: State of shock 36,4%, fear 27,3%, depressed 27,3%, the same feelings were quoted from the families, 90,9% have suffered prejudice. From the ambulatory reception, 100% have felt welcome, they said that exchange of experiences were good and there was mutual help between them, 72,7% have felt good during the test. Regarding the discourse of the mothers, it was observed that all have good expectations for the development of the children.

**Conclusion:** The reception in the audiology clinic obtained a positive result according to the opinion of the target public.

**7907. Hearing aids open fitting and into the ear adaptation in patients with tinnitus: handicap comparison**

Izabella Lima de Matos, Andressa Vital Rocha, Fernanda Capoani Mondelli

Dental School of Bauru, University of São Paulo (USP)

**Introduction:** Tinnitus is a symptom that affects approximately 10 to 15% of the adult population in a chronic and persistent way, interfering in sleep quality, concentration and causing negative emotional reactions. Among the existing forms of treatment, there is the use of hearing aids.

**Objective:** To compare the annoyance of tinnitus before and after use of hearing aids open fitting and into the ear adaptation.

**Methods:** The study was developed in two stages: Initial Evaluation - after patient referral for individual hearing aid and final evaluation - after three months of effective use. Participants were divided into - group A: 7 individuals adapted open fitting, and group B: 7 individuals adapted with into the ear hearing aids. The THI questionnaire was applied at the first moment and after three months of effective use of the hearing instruments to measure the modification of the handicap of the symptom. Statistical tests were used, adopting a level of significance of less than 5%.

**Results:** There was improvement of the tinnitus handicap in all participants. There was statistically significant difference in the comparison of the handicap before and after the adaptation of hearing aids in both groups. However, there was no statistically significant difference between the two types of hearing aids.

**Conclusion:** The use of hearing aids is beneficial in the reduction of tinnitus. The results after adaptation have shown to be better in relation to the reduction of tinnitus nuisance. There was no statistical significance regarding the two types of hearing aids.

**7909. Tests of speech perception in noise in the elderly: a research in hearing health services**

Mayara Santos Diniz Gomes, Lilian Cássia Bornio Jacob Corteletti, Isabela Alves de Quadros  
Universidade de São Paulo- USP

**Introduction:** hearing loss is one of the changes present in the elderly population, being known as presbycusis. One of the main complaints of hearing of the aged is the difficulty of speech recognition in noisy situations. There is scientific evidence on the need for evaluation of speech perception in noise competitive presence in the elderly. Objective: to verify if tests of speech perception in noise are applied with the elderly hearing health services accredited by SUS and identify how the results of these evaluations are used.

**Material and Method:** series: 14 audiologists active in Hearing health services accredited by Ministry of Health, and seven authors and co-authors of papers published on this subject in Brazil. All filled out an online application developed by Google Doc tool results: obtained seven responses of authors and co-authors of these 85.7% perform the test of perception and speech in noise in your clinical routine in the elderly, the results of the test are used to: 66% referrals, 33% and 50% for test equipment adaptation, 100% therapeutic planning definition and 100% use to verify the improved speech perception. Among the institutions were obtained 14 responses, of these only 21.4 perform the test, the elderly population covered, the results of the test are used to: 33% define referrals, 100% device adaptation, 33% definition of therapeutic planning and 66% use to verify the improved speech perception

**Conclusion:** the tests of speech perception in noise are not being applied in most of the institutions that composed the material of this study. In the institutions, and between authors and co-authors, using your clinical routine testing, the results obtained are used mainly in rehabilitation stage of hearing loss.

**Key words:** Elderly Hearing Loss, Speech Perception, presbycusis.

**7919. Screening index of voice disorders pre and post voice therapy in a group of female teachers**

Tânia Maestrelli Ribas, Djane Rosa dos Santos  
Universidade Federal de Goiás

**Introduction:** The abusive use of voice associated with inadequate working conditions gives the teacher greater risk for the development of vocal disorders. Vocal exercises can benefit these professionals by improving vocal production.

**Objective:** To apply the voice disturbance screening index before and after speech intervention in a group of teachers.

**Method:** Quantitative, interventional and prospective study, with control group. Thirty-one elementary school teachers participated in the study. As inclusion criteria were adopted: being a female teacher, being in the exercise of the profession and presenting in the Index of Screening for Voice Disorder (ITDV) value  $\geq 5$  points. The teachers signed the Term of Free and Informed Consent (TCLE), completed the identification form and the Index for Screening for Voice Disorder (ITDV). Participants who scored  $\geq 5$  on the ITDV were divided into two groups, experimental (GE) and control (CG) and submitted to an intervention, the SG performed the exercise of high resistance straw and the GC had vocal orientation. Each GE participant performed the straw exercise for five minutes in eight meetings. The total intervention occurred for a period of six to eight weeks. At the last meeting, the ITDV was again filled in both groups.

**Results:** comparing the pre and post-intervention moments, it was observed the mean score of the ITDV score was reduced, from 8 to 5 points, with a statistically significant difference.

**Conclusion:** in this group of teachers, there was a reduction in most vocal complaints after the speech-language intervention.

**Key words:** vocal complaints, teacher, intervention.

**7925. Vestibular dysfunction in individuals exposed to physical and/or chemical agents**

Dinah Eloisa Lago Londero, Valdete Alves Valentins dos Santos Filha, Bianca Nunes Pimentel, Priscilla Cristina dos Santos Martins  
Universidade Federal de Santa Maria

**Introduction:** Prolonged exposure to physical and chemical agents can cause chemical, metabolic, and mechanical changes in the auditory and vestibular systems.

**Objectives:** To analyze the relationship between occupational exposure to physical and/or chemical agents and the occurrence of vestibular dysfunctions.

**Method:** Research approved under number 16728013.0.0000.5346, retroactive, through the database review of 467 patients, referred to the Otoneurology outpatient clinic of a university hospital from 2012 to 2016. Inclusion criteria: 18 years old, Dizziness complaint and history of occupational exposure to physical and/or chemical agents. 366 participants were excluded for not presenting exposure to the agents or caloric test; 8 children exams; 12 neurological alterations; 30 elderly people; Totaling 51 selected exams. All were submitted to anamnesis, visual inspection of the external acoustic meatus and Computerized Vectoelectronystagmography.

**Results:** 39 (76,47%) women and 12 (23,53%) men with complaint of dizziness and occupational exposure to physical and/or chemical agents, mean age of 46,80 years ( $\pm 9,62$ ), varying from 23 to 58 years. There was a relationship between the presence of vestibular dysfunction and the male sex ( $p=0,002$ ), but not in relation to the history of occupational exposure to physical agents ( $p=0,15$ ) or chemical ( $p=0,27$ ) separately, as well as with type of dizziness ( $p=0,93$ ) and age ( $p=0,49$ ).

**Conclusion:** It was observed a relationship between male gender and vestibular dysfunction in individuals exposed to physical and/or chemical agents. However, there was no for age, type of dizziness, and occupational exposure to an agent alone.

**Key words:** Dizziness, Vestibular Function Tests, Noxae.

**7927. Comparative analysis of the data audiológicos of maritime workers**

Tatiana Rodrigues Garcia, Armando Meyer, Volney de Magalhães Câmara, Moara Karoline S. Malheiros, Maria Isabel Kós Pinheiro de Andrade, Flavia Monique Cardozo da Silva  
Universidade Federal do Rio de Janeiro

**Introduction:** The workers' health in Brazil has been taking a broader view in case health - disease. Among the changes found we have the hearing loss due to exposure to high sound pressure levels and by exposure to chemical agents.

**Objective:** to conduct a comparative study between the auditory thresholds in the range of a year of exposure.

**Methods:** This was a retrospective study, approved by following the rules of the Committee on Ethics in Research (CAAE: 62731416.5.0000.5257-17). We analyzed the medical records of the years 2015 (Data A) and 2016 (Data B) assessments of audiologic maritime workers, according to the requirements of the National Committee of Noise and Hearing Conservation. The age ranged between 22 and 66 years.

**Results:** We analyzed the medical records of 29 workers, 79.3% are exposed to various chemical products and 100% to occupational noise. Was performed comparing the mean hearing thresholds of frequencies tested in the audiometry. The average where it was found greater difference between the analysis of the data (mean=22) and B (mean=24) was in the frequency of 4000 Hertz in the right ear, occurring increase of 2 decibels in the interval of only one year. The age group that presented the greatest change (55.6%) in the high frequencies was 48-66 years.

**Conclusion:** exposure to noise in synergy to chemicals can exacerbate changes in hearing threshold, initially in the high frequencies.

**Key words:** maritime workers, noise, chemicals, auditory thresholds.

**7930. Otoacoustic emissions evoked in schoolchildren exposed to pesticides**

Tatiana Rodrigues Garcia, Armando Meyer, Maria de Fatima Cruz Ribeiro de Miranda, Silvana Frota, Maria Isabel Kós Pinheiro de Andrade  
Universidade Federal do Rio de Janeiro

**Introduction:** instances of pesticide poisoning are registered every year. However, these cases are underreported, thus undermining the scale of the problem.

**Objectives:** To estimate the magnitude of the association between exposure to pesticides and the risk of alteration in cochlear function in students exposed to pesticides.

**Method:** This study evaluated individuals aged 8 to 30, of both gender, residing in an area of heavy pesticide use. Each study participant answered a questionnaire to assess their degree of pesticide exposure. To evaluate cochlear function, audiometry exams were performed, including transient evoked otoacoustic emissions and distortion product otoacoustic emissions.

**Results:** The transient evoked otoacoustic emissions responses were lower on average at higher frequencies, especially at 2.0 and 4.0 kilohertz, and lower at these frequencies among the most exposed individuals. A similar pattern was observed for distortion product otoacoustic emissions responses. The lowest level of response in the distortion product otoacoustic emissions tests was observed at the frequency of 6 kilohertz in the group with the highest exposure score. The proportion of failures observed at more than one frequency in the transient evoked otoacoustic emissions tests on the right ear were significantly higher in the highest exposure group. In the distortion product otoacoustic emissions test, the failure percentage was also higher in the group of highest exposure when compared to that of lowest exposure.

**Conclusion:** The results suggest that exposure to pesticides can significantly contribute to alterations in cochlear function in individuals with preserved audiometric thresholds.

**Key words:** Pesticides, Evoked Otoacoustic Emissions, Cochlear Function, Student.

**7931. Frequency-Following Response with speech stimulus: comparison between two protocols**

Bruna Pias Peixe, Michele Vargas Garcia, Taissane Rodrigues Sanguebuche, Luize Caroline Lima da Silva  
Universidade Federal de Santa Maria

**Introduction:** The Auditory Evoked Potential called Frequency-Following Response with speech stimulus (FFR-speech) is elicited by a verbal stimulus, which allows evaluating the highest portion of the brainstem and subcortical region of the auditory pathway.

**Objective:** to compare two protocols for FFR-speech stimulation and to identify percentage of wave occurrence and latency.

**Methodology:** The casuistry was composed of 30 subjects with normal hearing thresholds, type A tympanogram and absence of speech understanding complaints. All were submitted to the basic audiological evaluation and the FFR-speech, performed in the "Smart EP" equipment - Intelligent Hearing Systems, in the intensity of 80dBnHL, only in the right ear. Two types of stimulations were performed, three series of 1000 sweeps and two series of 3000 sweeps, with the verbal stimulus /da/ of 40 ms, and after, analysis of the resulting wave, whose peaks and valleys (V, A, C, D, E, F and O) were marked.

**Results:** The occurrence and mean latency using the protocol of three series of 1000 sweeps were: V: 66.6% (6.5ms); A: 63.33% (7.82ms); C: 70% (17.70ms); D: 90% (23.70ms); E: 90% (31.34ms); F: 100% (39.14ms) and O: 100% (47.92ms). In the two series of 3000 sweeps were: V: 83.33% (6.67ms); A: 86.66% (8.01ms); C: 83.33% (17.55ms); D: 96.66% (23.36ms); E: 100% (31.28ms); F: 100% (39.27ms) and O: 96.66% (48.06ms).

**Conclusion:** It was possible to compare the protocols and to identify higher occurrence of waves in the stimulation of two series of 3000 sweeps in the equipment and there was no difference between the latencies in the two stimulations performed.

**7932. Development and Content Validation of Dissyllable Lists for Research of the Speech Recognition Percentage Index**

Ana Valéria de Almeida Vaucher, Tais Regina Hennig, Maristela Julio Costa  
Universidade Federal de Santa Maria

**Introduction:** The speech recognition evaluation, which is part of the basic audiological evaluation, is usually performed using monosyllables. In individuals with hearing loss, the speech recognition is impaired when the auditory and linguistic clues are diminished. Thus, under this aspect, the performance with monosyllables can be inferior when compared to the auditory recognition of disyllables and even of sentences.

**Objectives:** To develop and validate, regarding content, lists of disyllables in Brazilian Portuguese.

**Methods:** This work was submitted to the Research Ethics Committee of the institution of origin and approved under nº 13932513.1.0000.5346. Firstly, 442 words were selected from newspapers and magazines of the area, being disyllabics, paroxitones, nouns, with syllabic structures frequently used in the language. Then, the phases of analysis of the words were started, considering: familiarity; the adequacy of the words and, finally, the stage of auditory recognition by normal hearing individuals of different educational levels, who heard the words recorded according to ISO 8253-3: 2012, by a female speaker, presented through earphones at the level of 40 dB of Sensation Level.

**Results:** 198 words were considered extremely familiar, very familiar and familiar. Of these words, 176 were considered adequate and 172 formed a bank of familiar disyllables that were distributed in six lists with 25 words each.

**Conclusion:** Six lists of familiar disyllables, named lists LD-A, LD-B, LD-C, LD-D, LD-E e LD-F, were developed and validated by content, being available to continue the validation process.

**Key words:** Audiometry speech. Speech perception. Speech Discrimination Tests.

**7935. The use of an artificial neural network for evaluation of vocal roughness and breathiness**

Paula Belini Baravieira, Arlindo Neto Montagnoli, Alcione Ghedini Brasolotto  
Universidade de São Paulo - Programa Interunidades em Bioengenharia Eesc/IQSC/FMRP- São Carlos/SP

The auditory-perceptual evaluation is fundamental in the voice analysis; however, it is subjective. The acoustic analysis allows reproducing results, but is not precise enough for intense dysphonia. In order to fill this gap, the use of artificial neural networks seems to be a promising research field to develop reliable measurements related to vocal function.

**Objectives:** to validate an automatic system using artificial neural networks for evaluation of vocal roughness and breathiness.

**Methods:** 123 voices were selected from University of São Paulo speech-pathology clinic database, Faculdade de Odontologia de Bauru (nº Ethics Committee: 1.526.661/ CAAE 09635512.0.0000.5417). These voices presented variation from neutral to intense roughness and/or breathiness. Procedures: auditory-perception based on two scales: visual analog scale of 100mm and four points numerical scale. The characteristics of voice signals were extracted by Wavelet Packet Transform and by analysis of acoustic parameters: jitter, shimmer, derivative amplitude and pitch amplitude. Automatic system validation: parameterization, training, test and evaluation of artificial neural network.

**Results:** In the auditory-perceptual evaluation, excellent interrater ( $p=0.85$ ) and intrarater ( $0.87 < p < 0.93$ ) agreement were obtained by means of Intraclass Correlation Coefficient (ICC) testing. The best performance of artificial neural network for breathiness was a rate of 74%, demonstrating excellent concordance with auditory-perceptual (0.80 ICC). As for roughness, the best rate was 73% (0.84 ICC).

**Conclusion:** The use of artificial neural networks for roughness and breathiness evaluation presents high reliability, with results similar to interrater agreement. The artificial neural network reveals a promising method for vocal evaluation, bringing objective analysis as a strong advantage.

### **7939. Musical performance anxiety and voice handicap in singing**

Gleidy Vannesa Espitia Rojas, Flávia de Lima Osório, Lílian Neto Aguiar Ricz

Departamento de Oftalmologia, Otorrinolaringologia e Cirurgia de Cabeça e Pescoço da Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo

**Introduction:** to develop a good musical performance, a professional singer needs to strike a balance between the artistic aspect, which involves the characteristics of the singing aesthetics and efficient use of physiology in vocal production.

**Objective:** to correlate measures of musical performance anxiety and the voice handicap to singing in professional singers.

**Method:** 50 male professional singers participated, 14% classical singers and 86% popular singers, were in the age range of 19-43 years and average experience time of 10.96 years. The individuals completed the questionnaires: Kenny Musical Performance Anxiety Inventory (K-MPAI) and Modern Singing Handicap Index (IDCM), prior to a musical performance.

**Results:** According to the cut-off point (-15 points) of Kenny Musical Performance Anxiety Inventory, 42% of the singers this study presented musical anxiety performance. The mean the total score to the Modern Singing Handicap Index was (24,82). The Pearson correlated, demonstrated the moderate positive correlation between the total score of Kenny Musical Performance Anxiety Inventory and the different scores to Modern Singing Handicap Index. Being to the total score ( $r=0.436 p=0.002$ ), to the disability domain ( $r=0.391 p=0.005$ ), to the handicap domain ( $r=0.456 p=0.001$ ) and to the impairment domain ( $r=0.350 p=0.013$ ).

**Conclusion:** There may be a reciprocal relationship between presence of musical performance anxiety and an increased handicap in singing activity, which may be mediated by vocal preparation, presence of vocal complaints and self-confidence regarding the development of musical performance, which are important for the career professional musician.

**Key words:** Voice Handicap, Singing, Performance Anxiety, Voice quality.

### **7942. The impact of sound therapy on the quality of life of patients with tinnitus and normal audiology**

Andressa Vital Rocha, Izabella Lima de Matos, Maria Fernanda Capoani Mondelli

Faculdade de Odontologia de Bauru - Universidade de São Paulo

**Introduction:** Tinnitus is a conscious perception of a sound without the occurrence of a corresponding external sound source. It is a highly prevalent symptom, and may impair the individual's quality of life.

**Objectives:** The objective of this study was to verify the efficacy of the sound generator associated with counseling in the treatment of tinnitus in individuals without hearing loss, regarding the improvement of the discomfort, participation restriction and quality of life.

**Methods:** Fifteen individuals of both sexes with tinnitus and normal audiology were evaluated. The patients were submitted to: anamnesis, high frequency audiometry, and acuphenometry (Pitch and Loudness, in addition to the application of the Tinnitus Handicap Inventory, Visual Analogue Scale and Quality of Life World Health Organization. Participants of the research were adapted sound generator Siemens brand being evaluated in three situations: Initial Evaluation, Monitoring (3 months after adaptation) and Final Evaluation (6 months, after adaptation).

**Results:** The analyzes of the results were performed through descriptive and inferential analysis with the repeated measures variance to two criteria (ANOVA) and the use of the multiple comparison test: Tukey, indicating that the comparison of the annoyance and handicap of the tinnitus, evaluation of the quality of Life in the three stages of evaluation showed a significant improvement in the intervention.

**Conclusion:** The study concluded that GS was effective in the treatment of tinnitus in individuals without hearing loss, providing

improvement of the nuisance and the handicap. Quality of life was benefited after treatment, with no statistical relevance.

### **7943. Development of a vocal warm-up program for an amateur choir with the EASE Scale**

Daniel Lucas Picanço Marchand, Mauricéia Cassol

Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** The Evaluation of the Ability to Sing Easily(EASE) scale is an instrument developed to evaluate the immediate vocal use in singers. Due to its recent nature, there is not much data about it in the literature.

**Objective:** This study aims to evaluate the effectiveness of the Brazilian Portuguese version of this scale(EASE-BR) in the development of a vocal warm-up program in an amateur choir.

**Methods:** This was a prospective, two-stage, cross-sectional study with pre- and post-intervention outcome analyzes. Participants of an amateur choir, of both sexes, without age restrictions, who had no vocal signs or symptoms, and who had a minimum weekly frequency of one rehearsal were recruited. The subjects completed a questionnaire with socio-demographic and vocal data, and the EASE-BR scale pre- and post-demanding vocal activity. The first application phase provided the baseline data for the custom vocal warm-up construct to be evaluated in the second phase through the obtained scores.

**Results:** The sample comprised of 44 participants, 35 women(79,5%), aged between 14-73 years. We observed similarity in the pre-singing activity data - which symbolizes the vocal expectation of the participants - and a statistically significant difference in the comparison between the two post-singing activity moments. There was also a reduction on the scores of the EASE subscales at the post-intervention moment.

**Conclusion:** The EASE scale met the proposed objective, demonstrating its employability in amateur choir singers by the reduction on the obtained scores.

**Key words:** Voice; Voice Training; Voice Quality; Clinical protocols; Larynx.

### **7953. Equivalence of disyllabic lists for research of speech recognition percentage index**

Ana Valéria de Almeida Vaucher, Anaelena Bragança de Moares, Maristela Julio Costa, Tais Regina Hennig

Universidade Federal de Santa Maria

**Introduction:** Lists of words used in the evaluation of speech recognition, besides being specific for each language, must be submitted to a process of obtaining psychometric measures. Equivalent lists ensure that the result is maintained, regardless of the list chosen.

**Objective:** To verify the equivalence of new disyllabic lists of Brazilian Portuguese for use in the evaluation of speech recognition.

**Method:** This work was submitted to the Research Ethics Committee of the institution of origin and approved under nº 13932513.1.0000.5346. Six lists of disyllables, developed and validated in terms of content, were applied to 60 individuals, young adults, presenting normal hearing and being right-handed. It was chosen to present the recorded lists in the presence of ipsilateral speech noise, at a fixed intensity level of 30 dB at Hearing Level, in a signal/noise ratio of -4, which allowed scores between 40% and 60%, avoiding the ceiling or floor effect. Half of the subjects heard the lists in the right ear and the other half in the left ear, alternating the order of presentation. The data were analyzed considering the ear evaluated and the performance of the subjects in each list.

**Results:** Of the six lists, five were equivalent and referred to as LD-A, LD-B, LD-C, LD-D and LD-E.

**Conclusion:** There were obtained evidences of validity and reliability with five proposed lists, which are considered equivalent to each other, being available for application in other populations, both in the research and in the clinic.

**Key words:** Audiometry speech; Speech Discrimination Tests; Psychometry.

**7954. Occurrence and type of hearing loss in infants with Congenital Cytomegalovirus**

Bianca Maria Gois Moreira Santos, Marisa Frasson de Azevedo  
Universidade Federal de São Paulo

**Introduction:** Cytomegalovirus (CMV) is now considered the most frequent agent of congenital infection in man and is also one of the important causes of mental retardation, Central Nervous System disorders and deafness in childhood.

**Objective:** To verify the occurrence and type of auditory alterations in infants of mothers with congenital CMV.

**Method:** Retrospective longitudinal study with chart analysis, and prospective, with periodic evaluations, approved by CEP 1390/2015. The sample consisted of 60 children, 30 with diagnosis of congenital CMV (group study - GS) and 30 of the control group (CG) without diagnosis of congenital CMV. The audiological evaluation consisted: Transient Stimulated Evoked Otoacoustic Emissions, Brainstem Auditory Evoked Potential, Visual Enhancement Audiometry, Conditioned Playing Audiometry and Acoustic Immittance Measurements. Was used SPSS Statistics software, version 23.0. The theoretical basis used for the statistical analysis is described in detail by Field. The value of statistical significance was  $p < 0.05$ .

**Results:** there was no statistical significance between the audiological diagnosis and the CMV and control groups. The presence of the diagnosis of congenital cytomegalovirus was not correlated with the audiological diagnosis of the individuals. There was no statistically significant correlation between the variables Group and Audiological Diagnosis for the individuals who performed two, three or four evaluations.

**Conclusion:** We concluded that the number of evaluations and diagnosis between GS and CG did not correlate. In this way, a larger study is necessary to show significance.

**7955. To compare the auditory evoked potential of brain trunk encephalic trunk with click stimulus and Ichirp in a child with microcephaly**

Barbara Cristina da Silva Rosa, Jamylle Figueiredo da Silva, Aline Cabral de Oliveira Barreto, Francis Vinicius Fontes de Lima  
Universidade Federal de Sergipe/Campus Lagarto

**Introduction:** Microcephaly is a change in the child's head circumference at birth, with two standard deviations below age and sex. Children with microcephaly is considered to be at high risk for auditory deficiency, and the Auditory Evoked Potential of the Brain Stem in the neonatal hearing screening is fundamental.

**Objective:** To compare the Auditory Evoked Brain Stem Potential with click stimulus and Ichirp in a child with Microcephaly. Case Summary: This study was approved by the Ethics Committee (CAAE 55350316.0.0000.5546) of the Federal University of Sergipe, Campos Lagarto. The audiological evaluation was performed at the clinical college school. The child was seven months old, the mother reported that there was no intercurrence during pregnancy. Was performed otorhinolaryngologist consultation, anamnesis, behavioral evaluation, visual reinforcement audiometry, immittance and Auditory Evoked Potential of the Brain Stem with click stimulus and Ichirp were performed.

**Results:** He presented imitanciotria within normality; Was not conditioned to audiometry with visual reinforcement, and auditory behavior was observed with attention to the rattle, reco-reco, rattle and drum. In the Auditory Evoked Potential of the Brain Trunk, the electrophysiological threshold was close to 20 dBHL bilaterally, both with the click stimulus and with the ichirp stimulus. He presented a better visualization of the V wave with the Ichirp stimulus.

**Conclusion:** It was observed higher latencies and better wave morphology with Ichirp stimuli when compared to the click.

**7957. Findings of the evaluation of renal transplanted children in a hospital environment**

Gabriela Buffon, Lisiane de Rosa Barbosa, Laura Fuchs Nunes, Camila Lucia Etges, Nadini Cristina Marins Martinez, Nicole da Costa Filikoski  
Universidade Federal de Ciências da Saúde de Porto Alegre (Ufcspa)

**Introduction:** Children with chronic renal failure have their childhood negatively affected by the disease and are subjected to many interventions by health professionals and a large array of medicines, affecting their quality of life. The constant handling of the patient generates animosity towards the health professionals, hindering interventions and generating aversion to the touch; Furthermore, the drug combination alters the taste sensitivity and can lead to eating disorders.

**Objective:** To evaluate the feeding aspects of a renal transplanted child in a hospital environment.

**Resumed report:** Patient of 7 years and a half, with mild neurological delay and chronic renal failure. On perinatal dialysis since 6 years and 2 months, submitted to renal transplantation at 7 years and 5 months, hospitalized for 57 days. Patient is receiving speech-language therapy in order to evaluate swallowing and food acceptance. Mother reported difficulties with feeding from a young age, with restrictions on textures and food consistencies, restricting her feeding to around 6 types of food to which the mother was able to offer without liquefying, the rest was liquefied, with worsening acceptance of food according to the disease. In clinical evaluation of deglutition with liquidized pasty food and water (not including solid food), there is no clinical signs indicative of penetration and / or laryngotracheal aspiration. The prolonged hospitalization time of the patient is accompanied by intense manipulation, aggravating the frame of resistance to feeding.

**Conclusion:** The important role of the Speech, Language and Hearing Sciences in the differential diagnosis of dysphagia and feeding disturbance.

**7958. Phonological alterations of a patient with amyotrophic lateral sclerosis**

Carolina Nunes Lauz, Maria Cristina de Almeida Freitas Cardoso  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Amyotrophic lateral sclerosis is a progressive degenerative neuromuscular disease, which affects upper and lower motor neurons.

**Objectives:** To describe the phonoaudiological characteristics found in a patient with amyotrophic lateral sclerosis. Case report approved by CEP under number 2.032.647 Resumed report

This is a 46-year-old male patient diagnosed with ALS over three years. His first symptoms were weakness in the right leg and vocal alterations. There is no complaint of swallowing disorder.

During the evaluations it was observed: EAT-10 score of 0 and in the clinical evaluation, normal swallowing; Middle and oronasal respiration; Spirometry PFE of 301.66 l/min and VEF1 de 1,67l; MPT or vowel "a" of 14,90s, vowel "e" of 13,1s and vowel "u" of 11,08s; s/z relationship of 0,48s.

**Conclusion:** The Patient is in a early stage of the disease, With alterarion in MPT, s/z relationship and spirometry regarding PEF. Low vowel modulation suggests glottal insufficiency and hyperadduction of vocal folds.

With these data it is emphasized that the speech-language evaluation in case of ALS it is necessary for an early intervention, improving the quality of life and the communication with patients with the disease.

**7961. Speech therapy intervention through teleducation on vocal mutation and vocal habits**

Lilian Oliveira, Wanderlei Quinhoneiro Blasca, Millena Maria Ramalho Matta Vieira, Camila de Castro Corrêa, Alcione Ghedini Brasolotto  
Faculdade de Odontologia de Bauru, Universidade de São Paulo

**Introduction:** The vocal health promotion in Teleducation has been used for reaching information, showing success in

interactive projects for adolescents. The vocal mute is a phase which is the adolescent may present insecurities and even dysphonias. Providing knowledge of the natural voice process helps to prevent vocal problems.

**Objectives:** To develop and analyze the effects of a training program on vocal mutation and healthy vocal habits using the Young Doctor Project model.

**Methods:** Eleven elementary public school students participated, divided into two groups, one of them with 4 Young Doctors, trained by face-to-face and virtual activity and other, 7 Students trained by Young Doctors. A virtual environment was developed by means of weblog for training. A questionnaire was applied in order to assess the knowledge before and after training. Statistic analysis with Paired "t" Test.

**Results:** The Young Doctors transmitted the acquired knowledge to the other students at the school. There was an increase in the level of knowledge ( $p<0,05$ ) after training of all participants and both groups.

**Conclusion:** The project contributed to a better interaction between the university and the community, promoting the training of elementary school students about knowing the importance of vocal mutation that occurs during adolescence and about vocal health, increasing the potential for vocal pathologies prevention and minimizing the difficulties resulting from these vocal mutations.

**Key words:** Voice; Teenager; Telemedicine; Distance Education.

### 7963. Characterization of children and adolescents with unilateral hearing loss

Nelma Caroline de Moraes Siqueira, Cilmara Cristina Alves da Costa Levy

Faculdade de Ciências Médicas da Santa Casa de São Paulo

The unilateral hearing loss is hearing loss in one of the ears, may it be mild to profound, and they will be identified as a newborn or later.

The early identification of the sensory hearing loss may reduce the chances of children experiencing speech delay difficulties at school, and the majority of them may feel challenged by the increase of hearing demand. Either in school environments or their daily lives. This study has been approved by the Ethics Committee.

The objective was to characterize children and adolescents with unilateral hearing loss, assisted at the Ambulatory of Educational Audiology from Santa Casa de São Paulo, from January 2015 to May 2017.

It has been done the data collection of 16 patient's records. From 16 recipients, 9 were female and 7 male, between 5 to 18 years old, 6 had conductive unilateral hearing loss and 10 sensorineural hearing loss. The occurrence of hearing loss of the right ear represented 50% of the recipients. All of those make use of hearing aids during, at least, 8 hours a day. Among the etiologies, 75% of them were congenital.

The study showed that through the appropriate management of the unilateral hearing loss, children/adolescents were able to prevent secondary problems and to acquire speech and language skills at suitable ages. Although it has been reported by parents the cases of some children presenting tiredness after the school's period and signs of fatigue, most of them related improvement on academic abilities with the use of hearing devices.

### 7966. Percentage index of recognition of silence and noise judgments in a socially active elderly group

Mariane Farias Pinto, Adriane Ribeiro Teixeira, Alexandre Hundertmarck Lessa, Maira Rozenfeld Olchik, Camila Zander Neves, João Paulo Nogueira Araújo Santos

Universidade Federal do Rio Grande do Sul

**Introduction:** Speech recognition is essential for understanding what is spoken.

**Objective:** To analyze the Percentage of Recognition of Sentences in socially active elderly.

**Methods:** Study approved by Research Ethics Committee. Non-institutionalized elderly, of both sexes, with a mean auditory

threshold of up to 50 dBHL were included in the sample. It was done the research of the Percentages of Recognition of Sentences in Silence (IPRSS) and in the Noise (IPRSR) in free field, using the Portuguese Sentence Lists test. The noise was used in fixed intensity of 65dB.

**Results:** The sample consisted predominantly of elderly women (73.8%). The mean age of the 65 individuals evaluated was  $69.60 \pm 7.34$  years. Auditory thresholds presented tritonal mean (frequencies of 500, 1000 and 2000Hz) of 23.23dBNA in the right ear and 23.74dBNA in the left. It was verified that the Percentages of Recognition of Sentences in Silence varied between 20.5% and 100% and the Portuguese Sentence Lists test between 9.6% and 100%. The signal to noise ratio varied between -12 and 7dB A (mean of  $-3.35 \pm 4.63$  dB A).

**Conclusion:** The results showed that while some elderly people have excellent speech recognition in silence and noise, others have significant difficulties and should be evaluated for auditory rehabilitation, even in the presence of normal or near normal thresholds.

**Key words:** elderly, recognition, judgments.

### 7967. Analysis of audiological data and profile of marine workers

Moara Karoline S. Malheiros, Armando Meyer, Volney de Magalhães Câmara, Flavia Monique Cardozo da Silva, Maria Isabel Kós Pinheiro de Andrade, Tatiana Rodrigues Garcia  
Universidade Federal do Rio de Janeiro

**Introduction:** Marine work and consequent exposure to a high level of noise creates a risk of hearing loss. Chemical exposure, hypertension and diabetes are risk factors for hearing loss.

**Objective:** To characterize the profile of employees of the naval service and to estimate associations between hearing loss and other variables.

**Method:** Cross-sectional, retrospective, quantitative study, approved by the Ethics and Research Committee under number (CAAE: 62731416.5.0000.5257-17). A total of 67 medical records were analyzed, including variables such as age, sex, type of exposure, blood pressure, glucose and auditory thresholds.

**Results:** All workers were male with mean age / standard deviations of (37.7; 11.7) years, respectively. It was observed that 97% worked exposed to physical agents and 86.6% to chemical agents. An average of auditory thresholds was considered altered for frequencies of 4 and 6kHz bilaterally. 22.4% presented high values for glucose levels. 62.7% in the systolic pressure, with statistical significance  $p = 0.04$  (Test t) and 62.7% in the diastolic pressure,  $p=0.002$  (Test t). A significant relation was found between the frequency of 3KHz in the right ear and the glucose values. When stratified by age group, the results were significant for 37 to 47 years with  $p=0.035$  (Pearson's Chi-square) and 20 to 28 years with  $p=0.007$  (Pearson's Chi-square).

**Conclusion:** Exposure to high levels of noise associated with risk factors such as chemical exposure, hypertension and diabetes may predispose hearing loss.

**Key words:** Audiology, Risk factors, Hearing loss.

### 7968. Wideband acoustic immittance in children undergoing otological microsurgery

Thais Lenharo Saters, Eliene Silva Araújo, Kátia de Freitas Alvarenga  
Hospital For Rehabilitation Of Craniofacial Anomalies, University Of São Paulo (Hrac/USP);Bauru School Of Dentistry, University Of São Paulo;Department Of Speech Therapy, Federal University Of Rio Grande do Norte

**Introduction:** Otitis media is one of the most frequent diseases in childhood and when there are failures in clinical treatment, surgery is indicated. The performance of conventional tympanometry becomes infeasible due to the need for airtight pressurization and possible risk of displacement of the tube. Thus, the wideband acoustic immittance emerges as a procedure that could contribute to patients undergoing otological microsurgery.

**Objective:** To characterize the acoustic transfer function of the middle ear in children undergoing otological microsurgery.

**Methodology:** Sixty children (11 to 44 months) participated. Experimental group (n=30 mean=26.6 months old) showing a Sheppard ventilation tube in the anterior-inferior quadrant, evidenced by otoscopy and description of the surgical procedure. Pairing was carried out with the control group (n=30, mean of 26.7 months), considering the age and the ear evaluated. Absorbance, admittance magnitude and impedance phase were analyzed using Acoustics' Middle-Ear Power Analyzer 5.0, with chirp and pure tone stimuli, from 258 to 6000 Hz.

**Results:** The transfer of acoustic energy was similar among the groups, with better transmission in the frequencies from 750 to 4008 Hz. However, when comparing groups we found differences in low frequencies (258, 492 and 750 Hz) for the absorbance and admittance magnitude and in the range from 492 to 1500 Hz, when considering the impedance phase, both for chirp and pure tone stimuli ( $p<0.05$ ).

**Conclusion:** The vent tube implies a modification in the acoustic transfer function, with higher sound admittance and absorbance in low frequencies. The stimuli chirp and tone can identify these modifications.

#### 7969. Oral and laryngeal motor control in patients with Obstructive Sleep Apnea Syndrome

Gabriele Ramos de Luccas, Alcione Ghedini Brasolotto, Giédre Berretin Felix

Faculdade de Odontologia de Bauru - Universidade de São Paulo

**Introduction:** As patients with obstructive sleep apnea syndrome (OSAS) present myofunctional orofacial alterations, assessment of oral and laryngeal motor control contributes to understanding these alterations and improving speech therapy treatment.

**Objective:** to evaluate oral and laryngeal motor control in patients with OSAS.

**Methods:** Twelve patients, mean age 42.67 years, diagnosed with OSAS of different severity degree or with moderate primary snoring performed the rapid repetition of syllables [pa], [ta], [ka], sequence [pataka], vowels [a] and [i]. For the analysis of the monosyllables and vowels, the Motor Speech Profile Advanced (KayPentax) program was used, which provides the parameters of the emissions velocity: average rate (avr) and average of the period (avp), besides measures of regularity of the emissions: standard deviation of the period (sdp); coefficient of variation of the period (cvp); perturbations of the period (jit); coefficient of variation of peak intensity (cvi). The velocity of emission [pataka] was analyzed manually in the program Sound Forge Pro 10.0.

**Results:** the means obtained were: avr=6.82; Avp=147.48; Sdp=17.48; Cvp=12.29; Jit=1.72; Cvi=2.93 for the emission [pa]; Avr=6.68; Avp=150.73; Sdp=11.23; Cvp=7.29; Jit=1.29; Cvi=1.72 for [ta]; Avr=6.48; Avp=155.37; Sdp=19.45; Cvp=13.33; Jit=2.21; Cvi=3.28 for [ka]; Avr=2.38 for [pataka]; Avr=2.38; Avp=234.50; Sdp=33.54; Cvp=15.33; Jit=3.45; Cvi=3.31 for the vowel [a]; Avr=4.47; Avp=231.07; Sdp=25.80; Cvp=11.17; Jit=2.93; Cvi=2.30 for [i]. Some of these results are different from normative data.

**Conclusion:** The comparison with literature data indicates that patients with OSAS may present repetitions of slower and irregular emissions, indicating difficulties in oral and laryngeal motor coordination.

**Key words:** Diadochokinesis, Sleep Apnea, Obstructive.

#### 7970. Perception of prescriptive methods in recently prostheticized patients

Thamara Mendes da Silva, Christina Ribeiro Campos, Laís Cristine Delgado da Hora, Sandy Maira Almeida de Andrade, Maria Isabel Kós Pinheiro de Andrade, Tatiana Rodrigues Garcia, Moara Karoline S. Malheiros

Universidade Federal do Rio de Janeiro

**Introduction:** Hearing loss has negative consequences for communication, and may compromise the recognition of speech sounds. Understanding patients' audiological profiles and assessing their perception is fundamental for appropriate adaptation.

**Objective:** To correlate the audiological profile of patients who just started using the hearing aid to a prescriptive method of greater comfort.

**Methodology:** Cross-sectional, quantitative study, approved by the Education and Research Committee under the number 1,343,035 / 2015. 23 medical records of adults adapted in the Auditive Health Service of a university hospital were analyzed. All the patients of the study were adapted with individual sound amplification apparatus of the same brand and model. Collected information encompassed: sex, age, time, etiology, type, configuration, degree of loss and the prescriptive method chosen at the time of adaptation (Company, Desired Sensation Level5 or Non-Linear Methods of National Acoustics Laboratories). These data were entered into the database and analyzed statistically using Fisher's Exact Test.

**Results:** Prevalence of female sex (58%) and mean age of 69.13 years. Regarding the prescriptive method, 52.17% chose the Desired Sensation Level5 method. Positive statistical correlation was found between age group and the prescriptive method chosen, with  $p = 0.31$ , and also between the degree of right ear hearing loss and the prescriptive method chosen, with  $p = 0.11$ .

**Conclusion:** The degree of hearing loss and characteristics related to the age of the patients may influence the choice of the most comfortable prescriptive method.

**Key words:** Hearing loss; Hearing aids; Adaptation.

#### 7973. Threshold of recognition of judgments in silence and noise in a non-institutionalized group of elderly

Mariane Farias Pinto, Alexandre Hundertmark Lessa, Maira Rozenfeld Olchik, Adriane Ribeiro Teixeira, João Paulo Nogueira Araújo Santos, Camila Zander Neves

Universidade Federal do Rio Grande do Sul

**Introduction:** Aging is a factor that can lead to a decline in the ability to understand speech in the presence or absence of hearing loss.

**Objective:** To analyze the sentence recognition threshold in non-institutionalized elderly.

**Methods:** Study approved by Research Ethics Committee. Non-institutionalized elderly individuals with a mean auditory threshold of up to 50 dBHL were included in the sample. The sentence recognition threshold in silence(LRSS) and noise(LRSR) in the free field were investigated using the Portuguese Sentence Lists test. The noise was used in fixed intensity of 65dB.

**Results:** 65 elderly were included in the sample, of which 73.8% were female. The ages ranged from 60 to 88 years (mean,  $69.60 \pm 7.34$  years). Most had normal hearing thresholds or hearing loss limited to high frequencies in both ears. The tritonal mean (frequencies 500, 1000 and 2000 Hz) of auditory thresholds was 23.23 dBNA in OD and 23.74 dBNA in OE. The sentence recognition threshold in silence was found to be  $39.16 \pm 11.15$  dB A (minimum 18dB A and maximum 70dB A) and the sentence recognition threshold in noise was  $61.6 \pm 4.63$  dB A (minimum 52dB A and maximum 72dB A ), That is, the average signal-to-noise ratio of -3.4dB.

**Conclusion:** It was verified that the sentence recognition threshold in silence were compatible with the tonal thresholds presented by the elderly and that the subjects were able to recognize the speech, even in an unfavorable situation, with noise in intensity higher than the speech stimulus.

**Key words:** recognition, non-institutionalized, aging.

#### 7978. Glottic and supraglottic configuration in patients with unilateral vocal fold paralysis

Dhyanna Domingues Suzart, Bruna Morasco Geraldini, Irene de Pedro Netto Vartanian, Camila Barbosa Barcelos, Elisabete Carrara de Angelis

Ac Camargo Cancer Center

**Introduction:** Unilateral vocal fold paralysis can occur due to peripheral and/or central laryngeal nerves lesion. Glottic and supraglottic adjustments occur in a compensatory manner to vocal fold paralysis. Characterizing such pre-speech adjustments may help understanding the adaptations that occur in the larynx.

**Objective:** To analyze the glottic and supraglottic configuration in patients with unilateral vocal fold paralysis before speech therapy.

**Methods:** Retrospective descriptive study based on the analysis from a previous research database, approved by the Research Ethics Committee (nº 2321/17). Were included 61 patients diagnosed with unilateral vocal fold paralysis. There was no exclusion criteria because the database were analyzed previously. Descriptive demographic and clinical data were analyzed: age, gender, etiology, glottic closure, position the vocal fold paralysed, presence of arching and/or unevenness, anteroposterior and vestibular constriction, time of paralysis.

**Results:** The presence of paralysis in paramedian position was in 54.2% the cases, complete glottic closure (85.3%), vocal fold in median position (88.9%). Vestibular folds contribution in 75.4%, being 10.8% ipsilateral; 65.2% constriction contralateral from the paralyzed vocal fold and 24% bilateral. Anteroposterior constriction in 73.7%. From the 40.9% who presented unilateral paralysis before 1 month, 8.2% had a bowel movement. No arching in patients with less than 1 month diagnosed.

**Conclusion:** Understanding the adaptations of pre-speech therapy laryngeal structures reinforces the need for speech therapy intervention as soon as possible, avoiding negative compensations during phonation.

**Key words:** larynx, paralysis, vocal fold, vagus nerve and speech therapy.

#### 7979. Turner syndrome

Heloisa de Miranda Cantuaria Alves, Adriana Sampaio de Almeida Meyer, Tamiris Guarnieri de Jesus  
Universidade de São Paulo

**Introduction:** Turner syndrome (TS) is a genetic disorder characterized by the total or partial deletion of one of the X chromosomes. It occurs only in females, affecting 1: 2,000 to 1: 5,000 in live births. Hearing loss is the most common characteristic in this syndrome, in which the conductive type is the most found in childhood with progression to a sensorineural hearing loss in adulthood.

**Objectives:** To describe the audiological findings found in a patient with Turner syndrome treated at the Rehabilitation of Craniofacial Anomalies Hospital of the São Paulo University (HRAC-USP) attended in the Multiprofessional Residency in Hearing Health Program.

**Abstract:** A 28-year-old female patient, short stature, sought the Hearing Health Division service referring to hearing difficulties since childhood, associated with episodes of otorrhea in the left ear (LE). On the assessment date, it was observed a tympanic membrane of the left ear perforated without recent purging episode and right ear (RE) without middle ear alterations. Anamnesis, meatoscopy, pure-tone thresholds (PTT), logoaudiometry and measures of acoustic immitance were performed. The Interacoustics® AD229e Audiometer and Interacoustics® AT235 Immitator, both calibrated according to ISO 8253-1 standards, were used.

**Results:** The results of the audiological assessment were: mild sensorineural hearing loss in the right ear and severe mixed hearing loss in the left ear.

**Conclusion:** In summary, the patient was referred for adaptation to the hearing aids.

**Key words:** Hearing loss, audiology, turner syndrome.

#### 7982. Reevaluation of brainstem auditory evoked potential in infants with and without risk indicators for hearing los

Camila Sá de Melo Campos, Jair Cortez Montovani, Tamires Ferreira Siqueira, Dândara Bernardo Siqueira, Lucas Spina, Georgea Espindola Ribeiro, Daniela Polo Camargo da Silva  
UNESP

**Introduction:** The auditory brainstem response (ABR) is the gold-standard test used in the diagnosis of hearing loss in neonates. However, the maturational process of the auditory pathway and neonatal intercurrences may influence their findings.

**Objective:** Evaluate the change in the ABR result in two months of follow-up.

**Methods:** A single noncompetitive cohort study was performed in a public hospital during January 2013 to January 2015. The ABR test was performed in all neonates in two moments with electrophysiological thresholds measured in the both ears, whose results were categorized into degree: mild, moderate, severe and profound.

**Results:** Forty-eight infants of both genders, 11 with prematurity and 14 with risk indicators for hearing loss participated in the study. In the first evaluation by ABR, with an average age of two months, 34 infants had abnormal results in the right ear and 31 in the left ear. In the second ABR, with na average age of four months, normalization was observed in 38% of the results obtained in the right ear and in 42% on the left ear. This significant change in ABR thresholds was found in those with mild and moderate degrees.

**Conclusion:** There were changes in the electrophysiological ABR thresholds in infants with a mild and moderate degree, while those presenting a severe and profound degree the results were maintained.

**Key words:** Hearing loss, neonatal screening, auditory pathways, neonate.

#### 7983. Prevalence of Speech Disorders in a Public School in Porto Alegre

Laura dos Santos Abon Zahr, Letícia Pacheco Ribas, Alessandra Fraga da Ré, Laura Fabiana Burkhard, Bruna Santos Sant'Anna, Bárbara Luísa Simonetti, Kariny Zencke da Silva  
Universidade Federal de Ciências da Saúde de Porto Alegre

**Introduction:** Language is the human ability to transform thoughts, of an abstract nature, into something concrete, which is a symbolic system called the language. The most common way of expressing language is through speech. Speech disorders can influence the process of literacy and communication, and may even cause interactional problems, due to the unintelligibility of speech.

**Objectives:** investigate the prevalence of speech disorders in a school of Porto Alegre.

**Methods:** Data from children aged 5 to 11 years analyzed from a public school in Porto Alegre, were which will be part of the DATAFON database (CEP1,584,201). Speech collection was given through the Speech Evaluation Instrument - IAF (in press). All the data of the subjects who had already done the speech collection were used. Speech disorders of phonetic and phonological origin were considered. Results and

**Conclusion:** Of the 164 children who had their speech collected, 38% had some speech disorder. Of these, 80% were of phonological origin; 14.5% of phonetic origin; and 5.5% had other changes. It is understood the need for more studies that seek to understand this high number of speech disorders in students of the public education network, helping in the understanding about the intervening variables of such disorders and in the planning of therapeutic models.

**Key words:** Speech Sound Disorder -- Child Language -- Language Disorders.

#### 7987. Auditory brainstem response: Changes in click characteristics in a case of auditory neuropathy

Camila Sá de Melo Campos, Jair Cortez Montovani, Tamires Ferreira Siqueira, Lucas Spina, Dândara Bernardo Siqueira, Georgea Espindola Ribeiro, Daniela Polo Camargo da Silva  
UNESP

**Introduction:** Auditory neuropathy is determined by a change in the conduction of the auditory stimulus due to involvement of the inner hair cells, auditory nerve or synapses between them. We usually find normal otoacoustic emissions and abnormal auditory brainstem response (ABR).

**Objective:** To verify changes in ABR morphology in an infant with auditory neuropathy as a form of improving the diagnosis.

**Resumed report:** Infant, male, first twin, born 34 weeks, vaginal delivery, birth weight 2090 g and Apgar score 7/8/9. At two

minutes of life he presented respiratory discomfort and was referred to the neonatal intensive care unit (NICU) for observation. He presented convulsion, enveloped with abdominal distension, sepsis and a total colectomy was carried out, remained 22 days in NICU. In the audiological evaluation, at 3 months of age, there was presence of otoacoustic emissions evoked by transient stimulus and absence of response in the automated ABR in both ears. In the conventional ABR, the results showed alterations, with the presence of cochlear microphonism with change in the characteristics of the click stimulus. The recording was performed in rarefied and condensed polarity at the rate of 21.1 clicks/second and in an attempt to improve the morphology the stimulation with rarefied polarity was performed at a rate of 3.3 clicks/second. However, there were no changes in the morphology of conventional ABR.

**Conclusion:** Manipulation of click stimuli did not improve the topographic diagnosis of hearing loss in this case of auditory neuropathy.

**Key words:** Diagnosis, Differential, Hearing loss, Neonate, Electrophysiology.

#### 7989. Perception of Audiology graduate students on facilities and difficulties in children's audiological evaluation

Karolina Pessote Sideri, Antonio Bento Alves de Moraes, Cecilia Guarnieri Batista, Pedro Augusto Thiene Leme, Ana Carolina Serra Carrenho Leme, Helenice Yemi Nakamura

Universidade Estadual de Campinas

**Key words:** Audiology; Child; Professional-Patient Relations

**Introduction:** Audiological evaluation comprises different subjective tests that require identification of stimuli by the patient, as in the case of Conditioned Play Audiometry, widely used with children. Professional formation in the area involves theoretical knowledge and practical skills, especially needed for child patients.

**Objective:** To describe facilities and difficulties reported by Audiology students during child audiological evaluation.

**Method:** Qualitative transversal research, using semi-structured interview with 25 graduate students. The data were transcribed and the interviews analyzed through the method of Discourse of the Collective Subject. The sharing (relative frequency) of each category (facilities and difficulties) was calculated.

**Results:** The most frequently reported facilities were related to specific children characteristics (docility, smartness, involvement in proposed play activity), student characteristics (favorable attitude towards children) and available resources (toys, physical space, presence of a supervisor). Difficulties were related to specific children characteristics (short attention span, especially in very young children) and to the presence of developmental alterations (mainly in expressive and receptive language, as well as in keeping social interaction).

**Conclusion:** During professional formation in Audiology evaluation of children, it is important to focus on the possible difficulties in dealing with problem situations, especially those involving children with developmental alterations. Supervised practice can be the opportunity to establish relationships between theoretical knowledge and practical skills.

#### 7992. Laryngeal behavior and vocal acoustic and auditory-perceptual measures of television reporters

Camila Oliveira e Souza, Lidia Teles

Faculdade de Odontologia de Bauru - FOB/USP

**Introduction:** The onset of vocal problems and any vocal changes may have a negative impact on television reporters and broadcasters.

**Objectives:** Investigate the laryngeal behavior and the vocal acoustic and auditory-perceptual measures during the locution and habitual speech of television reporters.

**Methods:** Eleven reporters of both sexes participated, mean age 30 years  $\pm$  4 years. The reporters were submitted to nasofibrolaryngoscopy for the evaluation of the laryngeal behavior while reading an excerpt of locution and an excerpt of habitual speech. Simultaneous recording of the voices was performed to

evaluate the fundamental frequency (F0) and for the auditory-perceptual evaluation. The evaluation of the laryngeal behavior observed: amplitude and velocity of vertical laryngeal movement; anteroposterior and medial constriction of the larynx; movement of the lateral walls and posterior wall of the pharynx; presence of saliva accumulation in the pyriform sinuses and/or vallecula and secretion in the vocal folds.

**Results:** The laryngeal behavior didn't indicate difference ( $p>0.05$ ) in the comparison between the excerpt of locution and the excerpt of habitual speech. In the vocal acoustic evaluation, the locution evidenced an increase in F0 ( $p<0.05$ ). In the auditory-perceptual evaluation there was a difference ( $p<0.05$ ) with improvement of vocal quality, increase of pitch, loudness, articulatory precision and intonation in the locution.

**Conclusion:** The locution didn't provide laryngeal effort or tension, there was an increase in F0, better vocal quality performance, increase of pitch, loudness and speed, greater articulatory precision and better intonation.

#### 7999. Effects of aging on balance - analysis through posturography "foam-laser"

Nathany Lima Ruschel, Renata Silva Soares, Alexandre Hundertmark Lessa, Maira Rozenfeld Olchik, Adriane Ribeiro Teixeira

Universidade Federal do Rio Grande do Sul

**Introduction:** Elderly people may have disturbances in balance, which can cause falls.

**Objective:** To evaluate the effect of aging on the balance of the elderly.

**Methods:** Study approved by the Research Ethics Committee (No. 466/12). We included in the sample individuals aged 60 and over, of both sexes, practitioners of physical exercises. Individuals with neurological, vestibular and motor abnormalities were excluded. A "foam-laser" Dynamic Posturography was performed, which allows the realization of the Sensory Organization Test (TOS). The measurements of antero-posterior body displacement were analyzed in six positions: open eyes (TOS I), closed eyes (TOS II), and with the movement of the cabin (TOS III). The same positions are then verified, but with a cushion under the feet (TOS IV, V and VI). The data were analyzed considering the means of TOS obtained in the elderly divided into three groups: 60 to 69 years (Group1), 70 to 79 years (Group2) and over 80 years (Group3).

**Results:** 109 elderly people were assessed, 81.7% female. Group1 was composed of 40 elderly, Group2 by 54 and Group3 by 15. Contrary to expectations, mean values for TOS were similar in all three groups, except for TOS V, where the evaluation was done with the subjects with closed eyes and A pillow under the feet ( $p = 0.020$ ).

**Conclusion:** The increase in age was not a factor that generated greater alterations of balance among the elderly. The practice of physical exercise may have been a determinant of such results.

**Key words:** Balance; Elderly and Aging.

#### 8000. Effects of the supraglottic maneuver on the cardiac autonomic regulation

Monique de Melo, Deborah Cavalcanti Pinheiro dos Santos, Vitor Engrácia Valenti

Faculdade de Filosofia e Ciências - Unesp Marília

**Introduction:** Different levels of the central nervous system are involved during swallowing, from the cerebral cortex to the medulla oblongata, many of the striated muscles innervated by the cranial nerves are excited and / or inhibited. Oropharyngeal dysphagia affects elderly people who usually present cardiovascular diseases. One of the compensatory maneuvers used in the rehabilitation of dysphagia is the supraglottic maneuver, which aims to reduce the chances of aspiration. Within the context, heart rate variability describes the oscillations of the intervals between consecutive heart beats (R-R intervals), it is a noninvasive and useful measure to evaluate the response of the cardiovascular system. Changes in heart rate induced by effort swallowing have recently been reported. However,

it is not apparent the responses of the heart rate variability caused by the supraglottic maneuver.

**Objective:** To analyze the effects of the supraglottic maneuver on the cardiac autonomic regulation.

**Method:** We analyzed 10 healthy subjects of both sexes. Initially, anthropometric data were collected from the volunteers. After resting, subjects should perform 4 swallow protocols for 5 minutes each. The collection was randomized. After spontaneous swallowing, the subject performed supraglottic swallowing, swallowing with adducted folds or swallowing with cough, so swallowing was required every 1 minute. The Shapiro-Wilk test was applied to evaluate normality and ANOVA test for comparison between the four moments. Significant differences were considered for  $p < 0.05$ .

**Results:** It was observed that there was no significance between the four moments. Conclusion: There was no effect of supraglottic maneuver on cardiac autonomic regulation.

**Key words:** cardiac autonomic regulation, supraglottic maneuver, swallowing, heart rate variability.

#### 8001. Audiologic study in drugs, alcohol and tobacco users newborns

Maaira Ferreira Casagrande, Thais Antonelli Diniz Hein, Milaine Dominici Sanfins, Maria Francisca Colella dos Santos  
Universidade Estadual de Campinas

**Introduction:** Drugs as alcohol, cocaine or sedatives used during the pregnancy can go through the placental barrier and influence the fetus development.

**Objectives:** Analyze the hearing of neonates born from mothers who used chemical substances, as drugs, alcohol and tobacco, during pregnancy, through the procedures of hearing screening and audiological diagnosis.

**Methods:** This study was approved by the Ethical and Research Committee of Unicamp (Comitê de Ética e Pesquisa), by technical advice nº 932.602/2015. Were evaluated newborns whose mothers used chemical substances during the pregnancy, from November 2016 to May 2017. Were excluded the newborns that had other risk factors to hearing loss. The hearing screening test-retest was performed through the Auditory Brain-Stem Response, with a click type stimulus intensity of 35 dBHL. All neonates were referred for audiological evaluation.

**Results:** In the hearing screening, 12 newborns passed bilaterally. Has performed the audiological evaluation 6 newborns who had passed in the hearing screening, and the majority had latency delay of wave V and in the interpeak I-V, in Auditory Brain-Stem Response in 80dBNH for clicks, in at least one ear. Furthermore, was observed latency delay of wave III for almost all the newborns in at least one ear. Of the six infants that returned to the evaluation, just one had latency values within the expected age range.

**Conclusion:** Were found auditory alterations suggestive of being a consequence of the use of psychoactive substances during the pregnancy.

**Key words:** hearing screening; drugs; hearing loss.

#### 8002. Vocal Risk Index (VRI): Development and validity

Rodrigo Maximiliano Jerez  
Actualizaciones Fonoaudiológicas

Vocal Risk is defined as the vulnerability of suffering some type of vocal disease by constant exposure to conditions that oppose or deteriorate vocal health.

**Objectives:** To develop a self-administration scale that allows identifying individuals at a vocal risk situation and characterizing their difficulties.

**Method:** A version of the Vocal Risk Index (IRV) was created with 26 questions that could refer to the determinants factors of vocal risk. One hundred twenty-six subjects completed the IRV-1. 11 items were excluded since did not show relevance among samples obtained in addition to poor item / total correlation. The IRV final version of 15 questions was completed by 46 subjects with voice impairments and 72 vocally healthy subjects. Psychometric properties were evaluated.

**Results:** Reliability and validity were good. Test-retest reliability was strong, as were sensitivity and specificity.

**Conclusion:** The IRV is a standardized tool that allows the identification of subjects in situations of vocal risk in different degrees of exposure. Reliability, sensitivity, specificity and validity were good.

**Key words:** Voice Disorders, Occupational Disease, Risk Factors.

#### 8006. Correlation between vocal quality and stress factors in teachers

Jhonatan da Silva Vitor, Larissa Thaís Donalonso Siqueira, Kelly Silverio, Alcione Ghedini Brasolotto, Vanessa Veis Ribeiro  
Bauru School of Dentistry - University of São Paulo

**Introduction:** Occupational stress is one of the factors that contribute to the occurrence of vocal problems in teachers. This is because they have high vocal demand and work in inadequate working conditions. Such data are proven by the literature, however, it's necessary to understand the relationship between the degree of vocal deviation and occupational stress.

**Objective:** correlate the degree of vocal quality with stress related occupational factors in female teachers.

**Methods:** Cross-sectional study, approved by Research Ethics Committee (nº0606.720). 40 adult teachers (mean age  $37.21 \pm 7.0$ ) performed vocal recording (counting of numbers) and answered a questionnaire about the frequency of factors related to occupational stress, monotonous and repetitive work, scored through a Likert scale of zero (never) to three (always). The vocal records were perceptual-auditory analyzed by three Speech Specialists, using the GRBAS1 scale, assigning a degree of deviation between zero (normal) and three (intense) for each parameter. It was considered the mode between the judges' analyzes (Kappa inter-rater: 0.4 to 0.71; intra-raters: 0.4 to 1.0). The Spearman Correlation Coefficients was applied ( $p = 0.05$ ).

**Results:** a positive correlation of occupational stress with global degree of vocal quality ( $r = 0.320$ ;  $p = 0.044$ ) and with roughness ( $r = 0.416$ ;  $p = 0.007$ ) were observed. There was no significant correlation with the other occupational factors and perceptual-auditory parameters.

**Conclusion:** At the studied group, as the frequency of the occupational stress factor increases in the work, also the degree of vocal deviation increases, in the parameters global degree of vocal quality and roughness.

**Key words:** Voice. Stress. Teachers. Occupational Health.

#### 8007. Audiological evaluation and investigation of auditory and extra auditory symptoms in workers of a refrigerators in the interior of the state of São Paulo

Camila Peruchi Ferreira, Maria Cristina Alves Corazza, Patrícia Arruda de Souza Alcarás, Jaqueline Silva da Silva  
Universidade do Oeste Paulista - Unoeste

The exposure of high sound pressure levels may favor the appearance of noise induced hearing loss, and this auditory alteration is considered to be one of the most common diseases in clinical practice and occupational scope. This study is focused in evaluate the hearing of employees who were inserted in a refrigerators located in the interior of the state of São Paulo, as well as to verify the auditory and extra-auditory symptoms presented by this class of workers. After the approval of the CEP, the sample consisted of 30 employees, 19 (63.33%) men and 11 (36.67%) women, ranging from 18 to 52 years old. The procedures performed included speech-language interview, the research for auditory thresholds tonal and vocal. Besides, sound pressure levels were measured in each occupational activity sector. Regarding the 30 participants, 30% had tinnitus hearing complaints and 46.15% presented headache with extra-auditory complaints. Considering the occurrence of hearing loss, only 13.33% of the workers presented alterations in the tonal thresholds, and of these, 75% were of the conductive type. It is noticed that the activities of sound pressure levels were above by the ones permitted by law. One can conclude that although the majority of the participants presented auditory thresholds within the norms

of normality, the local requires actions to reduce the sound pressure levels generated by the machinery, as well as actions of health promotion among workers, because the continuous and prolonged exposure into noise is am aggravating to the appearance of irreversible hearing loss.

#### **8009. Vocal hygiene habits of amateur choristes when dysphonic**

Daniel Lucas Picanço Marchand, Mauriceia Cassol

Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSPA)

**Introduction:** Amateur choirs consist of diverse people who wish to relate to something more artistic, often without previous musical experience. Thus, it is understandable that in this type of grouping there are few singers who have sufficient knowledge about the mechanics of the production of the singing voice and vocal health. Vocal hygiene knowledge is not routinely exploited in this type of choir.

**Objective:** This study aimed to verify what choristers usually do when they present vocal problems

**Methods:** This was a prospective, cross-sectional study. Participants of an amateur choir, of both sexes, without age restrictions, were asked to report what they usually do when they present vocal problems and inform as many actions as they wanted.

**Results:** The sample comprised of 54 participants, 44 women and 9 men, aged between 14 and 78 years. From the most common response to the least: drink water (25), vocal rest (20), self-medication (12), medical appointment (8), do nothing (4), apple consumption (3), and vocal exercise (1).

**Conclusion:** Many participants described appropriate actions against vocal problems, however, isolated. Vocal hygiene habits involve the concomitant use of multiple actions that have been reported and and this demonstrates little knowledge by the choristes of this specific group.

**Key words:** Voice; Voice Training; Voice Quality; Singing; Larynx.

#### **8010. College Students' Perception on Public Speaking**

Daniel Lucas Picanço Marchand, Mauriceia Cassol

Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSPA)

**Introduction:** Fear of public speaking has been studied over the years, but there are still some gaps about it. When public speaking, a person experiences symptoms that interfere with the effective communication. College students are commonly asked to speak in public to their peers and are potential research subjects.

**Objective:** This study aimed to verify the perception of college students about speaking in public.

**Methods:** This was a prospective, cross-sectional study. Participants of a Brazilian public university, of both sexes, without age restrictions, were asked to fill out a questionnaire about speaking in public. They were also asked to rank up symptoms they face when they have to speak for a public, from the most to the least common and the results were presented by the sum of the scores.

**Results:** The sample comprised of 39 participants, 32 women and 7 men, aged between 19 and 28 years. When asked if they consider themselves good communicators, 22 respond positively. 23 informed difficulty to speak in public and 32 consider themselves anxious persons. From the most common response to the least: speak fastly (257), difficulty to find words (228), tachycardia (204), language vices (178), respiratory change (166), sweat (155), dry mouth (150), and imprecise articulation (144).

**Conclusion:** The findings show that there is influence of psychological, physiological and motor factors when it comes to public speaking. There are still gaps on the subject, and robust studies are needed for better understanding on this matter.

**Key words:** Voice; Voice Training; Public Speaking; Glossophonia.

#### **8011. Efficacy of an intervention program in elderly with dysphagia and dementia resident long-term institution: a series of cases.**

Amanda Manera Freiry, Daiane Mariano de Matos, Brenda Gabriela Haack, Maira Rozenfeld Olchik, Marcieli Ghisi

Universidade Federal do Rio Grande do Sul

**Introduction:** Dysphagia is a common symptom of dementia, affecting 60-80% of patients with neurodegenerative diseases. Due to dysphagia, these patients may have other consequences, such as malnutrition, dehydration, and increased readmissions and infections.

**Objective:** To determine the efficacy of oral sensitivity therapy, cryotherapy, in patients with dementia.

**Resumed report:** This study based on a series of five cases of patients diagnosed with dementia who underwent a cryotherapy program for four weeks. The sample selected by non-probabilistic sampling for convenience. We included in these sample individuals with dementia, older than 60 years, living in a Long Stay Institution for the Elderly in the city of Porto Alegre, Brazil and exclusion criteria were patients to use exclusive alternative route without oral feeding. After the structural speech-language evaluation, mobility, tonicity, and sensitivity of the orofacial and functional structures (with pasty food) verified, which consisted of checking signs and symptoms of dysphagia, from the intake of pasty food, the elderly with a speech-language pathology diagnosis Oropharyngeal dysphagia submitted to dysphagia therapy. Four sessions of cryotherapy therapy performed one session per week. Subsequently, the patients reassessed. The Completed the intervention program five seniors, four females and a male aged between 73 and 85 years. After the cryotherapy sessions, all of them presented reduced reflex swallowing time and improved gag reflex sensitivity.

**Conclusion:** In this sample, the program intervention was effective, reducing swallowing trip time, which can be indicative of the decrease in the risk of aspiration/penetration.

**Key words:** dysphagia, elderly, dementia, cryotherapy.

#### **8012. Immediate effects of semi-occluded vocal tract exercises with two types of tubes immersed in water**

Perla do Nascimento Martins, Alcione Ghedini Brasolotto, Kelly Silverio  
Faculdade de Odontologia de Bauru da Universidade de São Paulo

**Introduction:** The semi-occluded vocal tract exercises are vocal techniques performed with partial occlusion of the vocal tract during the emission and aims to promote a more efficient emission with the minimum possible effort. These exercises can be used with rigid or flexible tubes immersed in water.

**Objective:** To verify the immediate effects on vocal quality after phonation exercises with the LaxVox silicone tube and the Finnish glass tube.

**Methodology:** After the approval by the Ethics Committee, thirty-six individuals, aged between 20 and 59, were submitted to the recording of sustained vowel emission and counting of numbers before and after performing vocal exercises. The auditory-perceptual analysis was performed by a speech and language pathologist in a paired and randomized manner, considering whether each parameter was improved, worsened or remained equal: overall degree of the vocal deviation, roughness, breathiness, tension, instability, resonance deviation and weak intensity/projection. For the comparison between the moments before and after the exercises, the Signal Test was applied ( $p < 0.005$ ).

**Results:** After the Finnish tube exercise, there was a reduction of the overall degree of the vocal deviation ( $p=0.003$ ) and tension ( $p=0.025$ ). No changes were observed in counting numbers after Finnish tube and in the two emissions after the exercise with LaxVox tube.

**Conclusion:** The semi-occluded vocal tract exercises performed with Finnish tube presented global improvement of voice and reduction of vocal tension and with the LaxVox tube no modifications were evidenced.

**Key words:** Voice; Semi-Occluded Vocal Tract; Exercise; Vocal Training; Phonation into Tubes.

### 8013. Musical anxiety performance in professional singers: clinical parameters

Gleidy Vannesa Espitia Rojas, Flávia de Lima Osório, Lilian Neto Aguiar Ricz

Departamento de Oftalmologia, Otorrinolaringologia e Cirurgia de Cabeça e Pescoço da Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo

**Introduction:** The musical anxiety performance often can be permeated by negative emotions, including stress, anxiety and high levels of terror, which may compromise the performance quality

**Objective:** to correlate acoustic voice measurements and assessment of cognitive aspects associated the public performance of singing.

**Method:** 50 male professional singers participated, 14% classical singers and 86% popular singers, were in the age range of 19-43 years and average experience time of 10.96 years. The individuals will be submitted to the experimental situation of anxiety that consists in the interpretation of a song a cappella. The singers completed the questionnaire: Self Statements during Public Speaking (SSPS) and recorded the vowel /a/, to analyze the acoustic measurements the Multi-Dimensional Voice Program (MDVP), by Kay Pentax®.

**Results:** There was a moderate negative correlation between the Self Statements during Public Speaking and the acoustic measurements, initial time with shimmer% ( $r=-0.315$   $p=0.026$ ); basal time with jitter% ( $r=-0.439$   $p=0.001$ ), shimmer% ( $r=-0.354$   $p=0.016$ ), Fo-Tremor Frequency ( $r=-0.354$   $p=0.016$ ), Fo-Tremor Intensity Index ( $r=-0.354$   $p=0.016$ ) and Amplitude tremor intensity Index ( $r=-0.368$   $p=0.018$ ); Anticipatory time with jitter% ( $r=-0.486$   $p=0.000$ ); in performance with Voice turbulence index ( $r=-0.305$   $p=0.031$ ); and the strong negative correlation in basal time with amplitude Tremor Frequency ( $r=-0.549$   $p=0.000$ ).

**Conclusion:** When there is a reduction in the singer's cognitive perception, against performance activity, by the presence of anxiety it is observed an increase in acoustic measurements, seems to be related with vocal stability, regularity of vocal fold vibration and of the vocal folds adduct during phonation.

**Key words:** Voice quality, Singing, Performance Anxiety.

### 8015. Evaluation of Upper Airway (UA) as associated factor for the severity of Obstructive Sleep Apnea

Bianca Maria Gois Moreira Santos, Thais de Moura Guimarães, Ildonete Rodrigues de Almeida

Universidade Federal de São Paulo

**Introduction:** Obstructive Sleep Apnea (OSA) is characterized by periodic episodes of partial or total obstruction of the upper airway during sleep. The risk factors for OSA are age, male gender, obesity, craniofacial and upper airway (UA) anatomical changes. The Cone Beam Computed Tomography (CBCT) is an important tool to research the OAS, since it allows a three-dimensional evaluation of the UA anatomy.

**Objective:** To evaluate the UA anatomy using CBCT and its relation with OSA severity.

**Method:** Patients with suspected of OSA performed clinical evaluation, CBCT, polysomnography, and anthropometric measurements. Statistical analysis was performed using Spss Software, version 21.0. The tests used were: Spearman Correlation and Linear Regression,  $p \leq 0.05$ .

**Results:** The present study consisted of a sub-sample of 21 subjects with OSA, 14 men (66.7%) and seven women (33.3%), aged  $48 \pm 12$  years, BMI  $31.38 \pm 6$ ,  $13\text{kg}/\text{m}^2$ . The apnea hypopnea index (AHI):  $31.93 \pm 29.72$  events/h. 47.6% had mild and 52.4% severe OSA. The pharyngeal measurements presented: total volume of  $13261.66 \pm 6913.18\text{mm}^3$ , total area of  $707.52 \pm 209.20\text{mm}^2$  and smaller area of  $66.57 \pm 55.51\text{ mm}^2$ . In the analysis of risk factors, the male sex ( $p = 0.002$ ) and the smallest pharyngeal area ( $p = 0.04$ ) showed statistical significant association with increased AHI. When we evaluated the correlations between AHI and CBCT measurements, there was a negative correlation between AHI and smallest pharyngeal area ( $p = 0.002$ ).

**Conclusion:** male and smallest pharyngeal area analyzed by CBCT correlate with the severity of OSA.

### 8016. Professional voice handicap index: adaptation, development and validity

Rodrigo Maximiliano Jerez, Florencia Araoz  
HIGA

**Introduction:** The Voice Handicap Index (VHI) from its development and publication has been modified and adapted to different populations according to their specific needs. The elaboration of an exclusive version for the evaluation of the limitations of the voice sung, left open the possibility of adaptation of this instrument to be applied in professionals of the spoken voice.

**Objectives:** To adapt and validate a scale of self-administration that allows to evaluate the limitations perceived by the users of the same, related to the professional spoken voice.

**Method:** A Professional-VHI version (Version 1) was created with 44 questions. 54 professional subjects of the spoken voice in their different manifestations completed the Professional-VHI Version 1. 14 items were excluded since they did not show relevance among the samples obtained in addition to poor item / total correlation. The final version Professional-VHI of 30 questions was completed by 62 healthy subjects and 13 subjects with ailments related to vocal production, all of them professionals of the spoken voice. Psychometric properties were evaluated.

**Results:** Reliability and validity were good. Test-retest reliability was strong, as were sensitivity and specificity.

**Conclusion:** The Professional-VHI is a standardized tool that allows to evaluate the limitations perceived by the users of the same, related to the professional spoken voice. Reliability, sensitivity, specificity and validity were good.

**Key words:** voice handicap, vocal disease, professional voice.

### 8023. Surface hydration of vocal fold associated with vocal exercise in singers: preliminary data

Joya da Silva Carrer, Evelyn Alves Spazzapan, Viviane Cristina de Castro Marino, Suely Mayumi Motonaga Onofri, Eliana Maria Gradim Fabbroni, Maria Cecilia Bayer Pereira  
Universidade Estadual Paulista "Júlio de Mesquita Filho"

**Introduction:** Surface hydration has been used as a strategy to directly hydrate the vocal folds, reducing the viscosity of the laryngeal mucus, increasing its vibration and reducing the phonatory pressure threshold in a short period of time.

**Objective:** To verify the effect of surface hydration associated to the tongue trills (TT) exercise in the vocal quality of the singers.

**Method:** Participants were eight singers aged between 18 and 40 years, without vocal complaints and without laryngeal disturbances. The inhalation was applied with 3 mL of saline solution (0.9%), maintaining the participant at rest vocal and then performed the tongue trills exercise for five minutes. The voices of the participants were recorded in the moments Pre and Post inhalation followed by exercise. A self-assessment protocol was applied, and it was performed acoustic and vocal extension analysis, with the programs MDVP (Key-Pentax) and Vocalgram (CTS Informática). The acoustic analysis and vocal extension results were compared between the moments Pre and Post inhalation followed by exercise using the Test-T Student.

**Results:** In the self-assessment, 50% of individuals answered that vocal quality improved. The results of acoustic analysis and vocal extension showed no significant difference.

**Conclusion:** The participants reported the sensation of improvement in the vocal quality but there was no difference in the results of acoustic analysis and vocal extension.

**Key words:** voice, vocal quality, voice training, hydration.

### 8026. Test-retest nasalalance scores variability in brazilian portuguese speakers

Flora Taube Manicardi, Mariana Cristina de Azevedo Sausanavicius, Evelyn Alves Spazzapan, Viviane Cristina de Castro Marino, Vanessa Moraes Cardoso  
UNESP

**Introduction:** Nasalance scores corroborate with perceptual judgments of speech nasality. Differences in nasalance scores for speakers may occur due to subject performance variability.

**Objective:** To verify nasalance scores variability within and across sessions for Brazilian Portuguese speakers.

**Method:** Nasalance measures of 30 adult women with normal speech were obtained within and across session for oral, oronasal and nasal stimuli using Nasometer II 6400 (Kay Elemetrics). Retest was performed immediately after the test, without removing the helmet. A second retest was performed one week after the test. For each passage separately, means and standard deviations were computed. The variability of nasalance scores was assessed by calculating the differences in scores between test-retests for each stimuli and participant. The distribution of the differences in nasalance points between measures were calculated. Cumulative frequencies of absolute differences in nasalance scores were compiled.

**Results:** Mean differences in nasalance values in the test-retest ranged from 1.35 to 2.19 (oral stimuli), 1.65 to 1.90 (nasal) and corresponds to 1.95 (oronasal) within session and ranged from 3.0 to 3.77 (oral), 3.53 to 4.30 (nasal) and corresponds to 3.90 (oronasal) across conditions. Within sessions, 90% to 93.33% of nasalance score comparisons were within 5 points. Across sessions, 93.33% to 96.67% of the measures were within 9 points.

**Conclusion:** Findings suggest that five nasalance points is a reasonable standard for typical variation in Brazilian normal speakers, with slightly greater variability across conditions. Clinicians need to be aware of subject's performance variability when using a nasometer to assess resonance disorders.

#### 8027. Vocal therapy effects with progression of intensity, frequency and duration in the larynx and elderly quality of life: preliminary results

Polyana Ferreira Salles, Cinthia Procópio da Silva, Eliana Maria Gradim Fabbri, Kelly Silverio, Alcione Ghedini Brasolotto, Giédre Berretin Felix, Eduardo Carvalho de Andrade

Faculdade de Odontologia de Bauru da Universidade de São Paulo

**Introduction:** During aging, it is common to occur vocal fold bowing, prominence of vocal processes, spindle-shaped glottic chink and supraglottic constriction, which produces vocal modifications that affect the elderly quality of life.

**Objectives:** To verify the immediate effect of vocal speech therapy with intensity progression, frequency and vocal emissions duration in the larynx and quality of life in the elderly voice.

**Methods:** After approval by an ethics committee, five elderly patients with average age of 79.6 years old were submitted to laryngeal examination and answered the Voice-Related Quality of Life protocol before and after vocal therapy, consisting of 12 intensive sessions with progressive exercises of intensity, frequency and maximum phonation time. One judge who did not participate on the earlier steps of the research analyzed the videos of the laryngeal exams in a paired and random way. The results were compared descriptively between the two evaluation moments.

**Results:** The average of Voice-Related Quality of Life scores before and after therapy were respectively 74 and 84% in the global domain, 74.17 and 80.83% in the physical functionality, 73.75 and 88.75% in the social-emotional. The laryngeal characteristics clearly improved for one of the treated elderly, with reduction of vocal fold bowing, spindle-shaped glottic chink and medial constriction, for the other patients, no consistent positive changes were observed.

**Conclusion:** The proposed therapy was positive as it improved the quality of life in the voice of the elderly participants, even though no laryngeal modification was observed in all participants.

**Key words:** Voice; Larynx; Elderly.

#### 8029. Visual reinforcement audiometry in children - a literature review

Cinthia Martins Fernandes, Iára Bittante de Oliveira  
PUC-Campinas

**Introduction:** The observation of the auditory behavior of the infant or young child assists in the diagnosis of hearing impairment, being a relevant practice in the speech-language pathology.

**Objective:** Review scientific articles regarding visual reinforcement audiometry.

**Methods:** For the review of the literature, were considered articles published in the period 2007 to 2017 in four Brazilian journals of Speech Therapy.

**Results:** The studies were selected by the application of the relevance test. Four articles were selected at the end of reviewing: analysis of breastfeeding infants without hearing impairment; comparison of normal hearing to impaired listeners; responses analysis of children with sensorineural deficiency; comparison of children born preterm and term. Selected studies involved 238 subjects of both genders, aged between two and 24 months, who underwent audiology. Of these, 194 (81%) had normal hearing and 44 (19%) had some type and degree of hearing impairment. Average exam time was 12 minutes. Evaluations were applied in the sound field with visual reinforcements, being considered as responses: looking or turning the head towards the sound source and visual reinforcement, cacoelio palpebral reflex, increase or decrease of pacifier suction, smile, cry, attention, frowning, generalized body movements. Minimum response levels found ranged from 20dbNA to no response at maximum intensities of the equipment in frequencies of 500Hz, 1000Hz, 2000Hz and 4000Hz.

**Conclusion:** There are few articles related to the subject, however, the studies show the efficacy of the behavioral evaluation, as a complement to the electrophysiological hearing exams.

**Key words:** Hearing, Children, Hearing Tests.

#### 8031. Study of the hearing needs of adults and elderly people with sensorineural hearing loss obtained by Scale Client Oriented Scale of Improvement COSI

Leticia Cardoso Silva, Maria Cecília Martinelli Iório  
Universidade Federal de São Paulo

**Introduction:** Hearing impairment compromises the individual audibility which damages his social coexistence regardless of age. In order to promote better quality of life hearing aid fitting is recommended. Self-assessment questionnaires are often used to assess the auditory needs of these individuals. The COSI scale - The Client Oriented Scale of Improvement is one of them.

**Objective:** To verify the complaints related to the hearing impaired, through the COSI scale according of age.

**Method:** 22 individuals were evaluated: 10 aged 18 to 59 years and 12 aged 60 to 79 with low schooling (<5 years of study) with hearing aid fitting medical prescription, and sensorineural moderate hearing loss.

**Results:** Considering the total population the most frequent complaints were not listening well to television (77%), followed by telephone difficulty (54%), talking without a visual clue (32%), not understanding in noise (27%), not understanding speech in general (22%) and in the church (22%). Among the elderly, the most frequent was to listen to the television while in the adults was understanding the speech followed by not to listen to television, the latter being determined by the greater occurrence of this complaint among women.

**Conclusion:** Older people report more difficulty listening to television while adults report complaints of not understanding speech in different situations. The COSI is recommended as the most useful clinical measure of rehabilitation outcomes because it is not intrusive in the rehabilitation process and because its use has the potential to positively affect the rehabilitation process for individual clients.

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Rua Teodoro Sampaio nº 399 cj 62 - Pinheiros, São Paulo - SP, 05405-000  
Telefone: (11) 3068-9855

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