ENT and Dental common problems



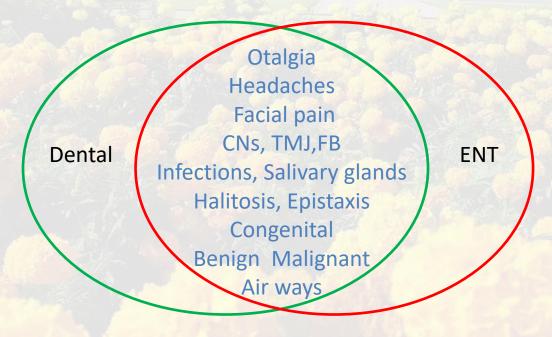
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### Introcduction

 There are many dental disorders and diseases can present to ENT Doctor and the vice versa is correct







# Pre surgical





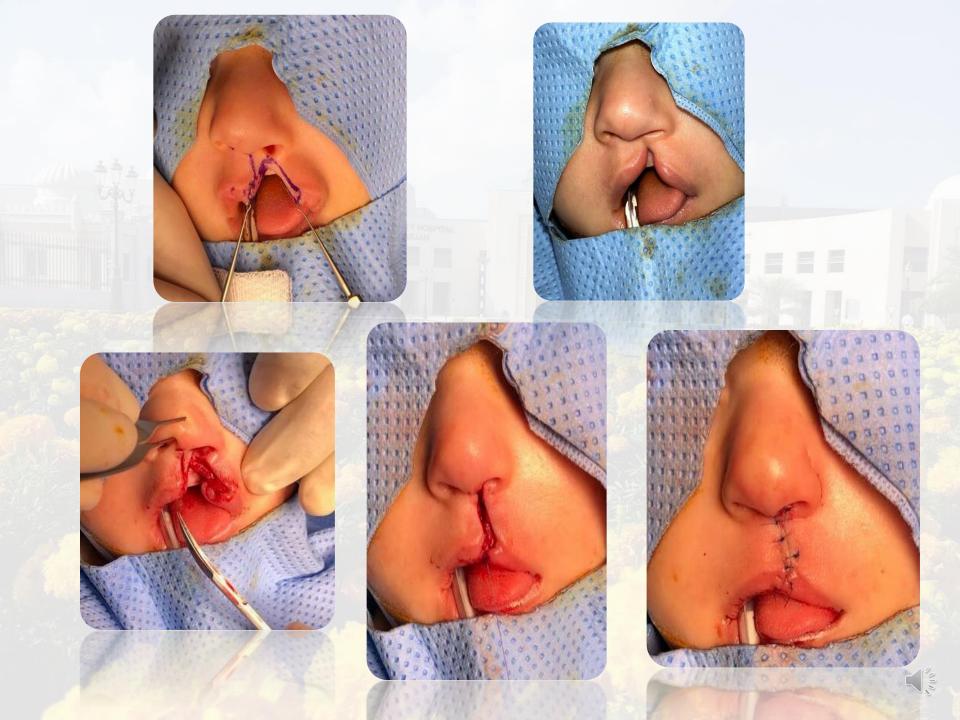


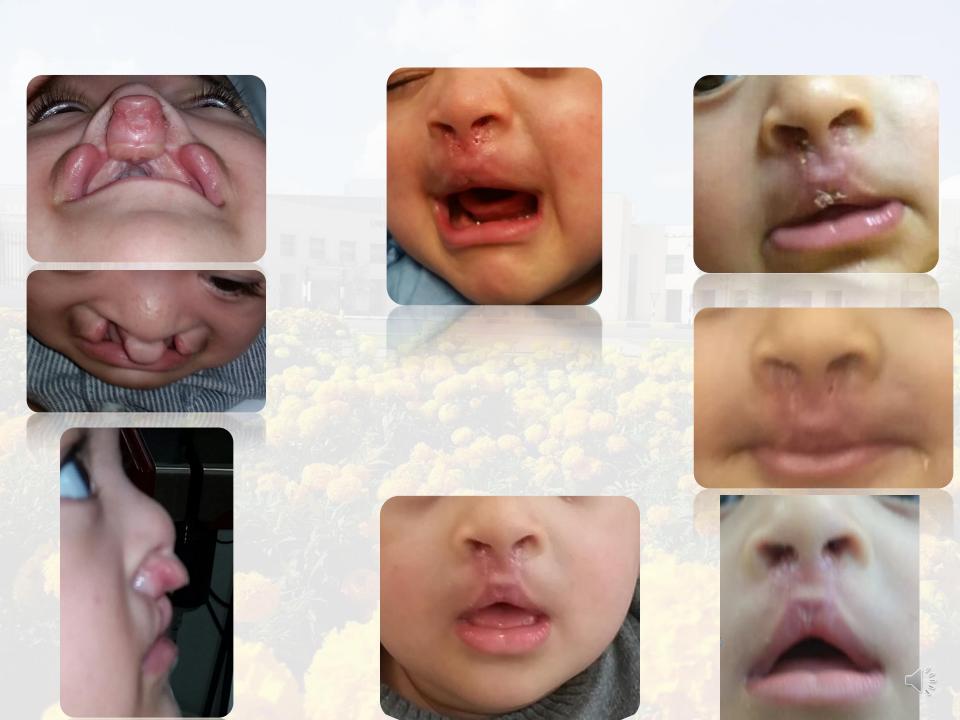
- ➤ Nasoalveolar molding devices
- Custom made devices which utilize wiring and nasal stenting to mold the nasal cartilage, premaxilla, and alveolar ridge
- ➤ Nasal stenting can be elongated and adjusted to lengthen the columella and mold the nasal cartilage Takes advantage of the malleability of nasal cartilages.

















# ENT symptoms caused by dental problems

- Otalgia: TMJ dysfunction, Toothache, oral ulcers
- Facial pain
- Headaches
- CNs,
- FBs
- Snoring: malocclusion, small lower jaw,
- Halitosis, dental decay, oro-antral fistula
- Neck lumps and facial swellings: reactive LN f
- Nasal discharge
- Epistaxis
- Salivary glands disorders.
- Stridor
- Head& Neck congenital abnormalities

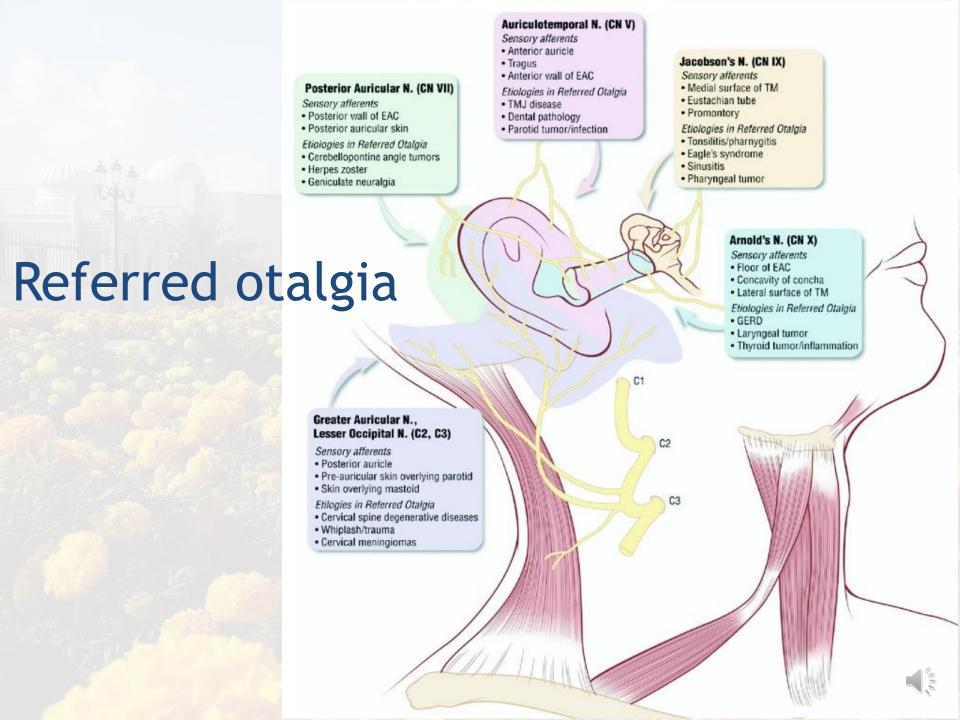


# Otalgia

- Definition:
- Pain in the ear
- Classification:
- A. Primary otalgia:
- The origin of pain is in the ear.
- B. Referred (secondary) otalgia:

The origin of pain is outside the ear and is referred to the ear

- along the following nerves:
- 1. Trigeminal nerve (V).
- 2. Facial nerve (VII).
- 3. Glossopharyngeal nerve (IX).
- 4. Vagus nerve (X).
- 5. Posterior roots of C2 and C3.



### Prevalence

- It is often stated that 50 percent of pain in the ear is secondary otalgia
  - 50 % of secondary otalgia results from dental causes
- In a study of 500 patients visiting ENT clinic
  - 58% presented with primary otalgia
  - 28% with secondary otalgia
- In another study of 615 patients with secondary otalgia
  - dental (38 %)
  - temporomandibular joint (TMJ) disorders (35 %)
  - cervical spinedisorders (8 %)
  - neuralgias (5 %).
- The causes of otalgia in children are similar to those in adults, although middle ear disease (especially acute otitis media) is more common



### **Primary otalgia**

- 1. Trauma to the ear.
- 2. Otitis External (commonest cause in adults).
- 3. Otitis media (commonest cause in children).
- 4. Eustachian tube obstruction,
- 4. PNS Cancer

# Secondary otalgia

- A. Trigeminal nerve:
- 1. Malocclusion.
- 2. Impacted wisdom tooth.
- 3. Dental caries.
- 4. Dental infection.
- 5. TMJ arthritis.
- 6. Acute sinusitis.

#### **B. Facial nerve:**

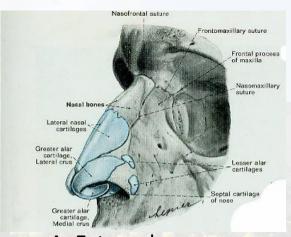
- Herpes zoster of the geniculate ganglion (Ramsay
- Hunt syndrome).

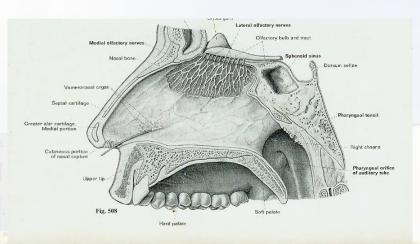
#### C. Glossopharyngeal nerve:

- 1. Acute tonsillitis.
- 2. Peritonsillar abscess.
- 3. Glossopharyngeal neuralgia

- D. Vagus nerve (X):
- Ulcers of the larynx e.g. tuberculosis.
- E. C2 and C3:
- 1. Cervical disc lesions.
- 2. Cervical osteoarthritis

# **Anatomy of the Nose**

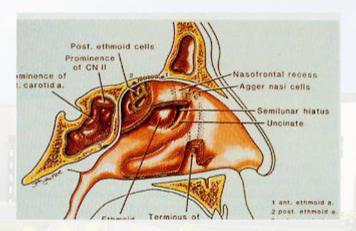




- A. External nose.
- B. Nasal Cavity:
- 2 nasal cavities separated by the nasal septum.
- Each nasal cavity communicates with the outside through the
- anterior nasal opening (nares or nostrils), and with the
- nasopharynx through the posterior nasal opening (choana).
- Each cavity is composed of:
- 1. Vestibule: lined by squamous epithelium with short hairs
- (vibrissae).
- 2. Respiratory part: lined by respiratory mucosa.
- 3. Olfactory part: line by olfactory mucosa.

### Lateral wall of the Nose





- The lateral wall of the nose carries 3 turbinates: superior, middle
- and inferior.
- Underneath each turbinate is a meatus:
- 1. Superior meatus: receives ostia of posterior ethmoid sinus.
- 2. Middle meatus: receives ostia of maxillary, anterior ethmoid, and
- frontal sinuses.
- 3. Inferior meatus: receives the nasolacrimal duct.
- 4. The Spheno-ethmoidal recess is the space above the superior turbinate.
- It receives the ostium of the sphenoid sinus.

# **Anatomy of the Paranasal Sinuses**

#### 4 pairs of sinuses.

- 1. Maxillary:
- Largest sinus.
- Opens into the middle meatus.
- Closely related to the upper premolar, and first and second
- molar teeth.
- 2. Frontal:
- Opens into the middle meatus.
- 3. Ethmoid:
- 1. Anterior ethmoid:
- Opens into the middle meatus.
- 2. Posterior ethmoid:
- Opens into the superior meatus.
- 4. Sphenoid:
- Opens into the Spheno-ethmoidal recess

### **Facial Pain**

- Neural pain.:
- Primary neuralgia:
- a. Typical:
- 1. Trigeminal neuralgia.
- 2. Glossopharyngeal neuralgia.
- b. Atypical facial neuralgia.
- Secondary:
- 1. Central neuralgia.
- 2. Post herpetic neuralgia

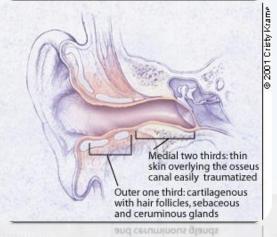
# **Dental pain**

- 1.Impacted wisdom.
- 2.Dental infection.
- 3.Dental extraction.
- Facial pain of ENT origin:
- 1.External otitis.
- 2.Acute sinusitis.
- Temporomandibular pain.



- Impacted wisdom tooth is an important
- cause of unexplained pain in the ear.





### Facial pain of ENT origin

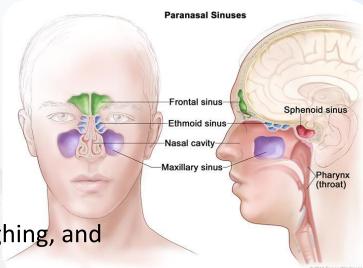
#### A. Otitis Externa

- Inflammatory conditions of the external ear canal.
- The pain may be severe and throbbing. The
- characteristically increases with jaw
  - movements
- and with pressure on the tragus



### **B.** Acute sinusitis:

- Pain is a constant feature of acute sinusitis.
- The pain typically increases on straining, coughing, and
- bending down.
- Maxillary pain is over the cheek and may radiates to the
- upper teeth especially on bending and coughing.
- Ethmoid pain is between the eyes and over the bridge of the
- nose.
- Frontal pain is over the forehead and is usually associated
- with generalized headache. It commonly shows morning
- periodicity (vacuum effect).
- Sphenoid pain is usually deep seated behind the eyes, and is associated with occipital or vertical headache



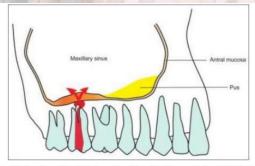
### **Atypical Facial Neuralgia**

- An important cause of unnecessary dental
- extractions.
- Middle aged females.
- Frequently there is a psychological factor.
- Characterized by recurrent pain over the
- cheek and teeth.
- May be bilateral.

### **Epistaxis**

- Bleeding from the nose.
- Dental causes: T.M.O.D.T
- 1. Traumatic dental extractions.
- 2. Maxillofacial trauma.
- 3. Oro-antral fistula.
- 4. Dental maxillary sinusitis.
- 5. Tumours of dental origin





Multiplication of bacteria invading from the focus of a dental infection results in odontogenic maxillary sinusitis.



### **Treatment:**

### Control of bleeding:

- 1. Pinching of the nose.
- 2. Packs of cotton soaked with adrenaline or decongestant nasal drops
- hypertensives).
- 3. Nasal cautery AgNO3, Bipolar.

- 2. Nasal packs.
- 3. Cautery.
- 2. General measures:
- Treatment of shock, and
- coagulants.
- 3. Treatment of the cause.
- 4. Arterial ligation or clipping for selected patients.

# **Acute Maxillary Sinusitis**

- • Etiology:
- 1. Rhinogenic (80%).
- 2. Dental (10%):
- 1. Apical abscess of the upper
- second premolar, first and
- second molar teeth.
- 2. Faulty extraction (oroantral
- fistula).
- 3. Traumatic e.g. Foreignbodies.





### **Symptoms**

- A. Acute maxillary sinusitis:
- 1. Fever, malaise, and headache.
- 2. Pain and tenderness over the cheek. The pain
- radiates to the teeth on bending down, and
- increases on straining and coughing.
- 3. Nasal obstruction.
- 4. Mucopurulent nasal and postnasal discharge.
- In dental infection the discharge is characteristically unilateral and malodorous due to the anaerobic dental organisms.

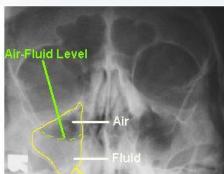
# **Chronic Maxillary Sinusitis**

- 1. Nasal and postnasal mucopurulent discharge.
- 2. Nasal obstruction.
- 3. Sense of heaviness or recurrent pain over the cheek.
- 4. Headache.

### **Investigations:**

- 1. Plain radiography:
- Occipitomental view
- with open mouth.
- - Of limited value.
- 2. CT scans:
- Coronal and axial.
- The best and standard
- technique.

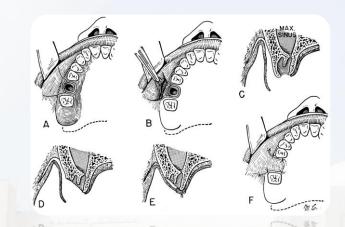


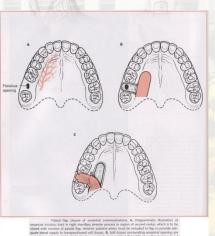




#### **Treatment**

- A. Acute sinusitis:
- 1. Antibiotics.
- 2. Nasal decongestants (local and systemic).
- 3. Antipyretic analgesics.
- 4. Steam inhalations
- B. Chronic sinusitis:
- 1. Medical treatment:
- Antibiotics, anti-allergics, nasal washes.
- 2. Surgical treatment:
- Appropriate sinus procedure. Endoscopic sinus
- procedures are now the standard procedures





# **CaldWell Luc Operation**

- Also called "Sublabial"
- antrostomy"
- Indications:
- 1. Foreign bodies in
- maxillary sinus.
- 2. As a route to the
- pterygopalatine fossa.
- 3. Insertion of submucosal
- implants.
- 4. Selected cases of maxillary
- cysts and tumours.





### **Complications:**

- 1. Sublabial oro-antral fistula.
- 2. Trauma to the root of the teeth or their nerve and blood supply (devitalization of teeth).
- 3. Infraorbital neuralgia (trauma to the
- infraorbital nerve).

### **Oro-Antral Fistula**

- Definition: Fistula between the
- oral cavity and the maxillary
- sinus or antrum.
- Types:
- 1. Alveolar:
- The commonest type. It usually
- follows traumatic dental extraction.
- 2. Sublabial:
- This may arise as a complication of
- CaldWell- Luc operation.
- 3. Palatal:
- 1. Syphilis.
- 2. Malignancy.
- 3. Following a maxillectomy operation



### Clinical picture of alveolar fistula:

- 1. Mild epistaxis at the time of extraction.
- 2. Escape of fluid or food from the nose.
- 3. Escape of air from the fistula on blowing the nose.
- 4. Unilateral nasal discharge with bad odour.
- 5. Pain over the cheek.
- 6. A probe may be passed through the fistula.
- Investigations:
- 1. Plain X-Rays (occipitomental) +/- probe.
- 2. CT scans









### **Treatment**

- 1. Recent fistula:
- Primary closure.
- 2. Old fistula:
- 1. Small:
- Suturing after freshening of the edges of the fistula.
- · 2. Large:
- 1. Clearing infection from the maxillary sinus by repeated
- punctures or endoscopically.
- 2. Closure of the fistula by a buccal or palatal flap +/- bone
- graft:
- The palatal flap is thicker and has better blood
- supply, but is more traumatic.
- The buccal flap is easier, but is thin and may
- obliterate the buccogingival sulcus.

### **Ectopic Teeth**

- Causes:
- Congenital.
- - Traumatic.
- May cause a rhinolith.
- Clinical picture:
- Unilateral nasal obstruction.
- Unilateral nasal discharge.
- Treatment: Removal.

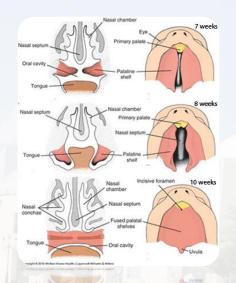


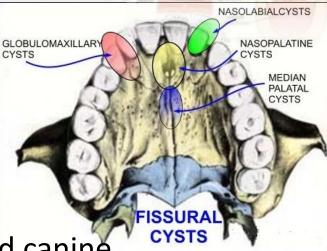


### Cysts of the Maxilla

#### **Congenital:**

- A. Medial:
- 1. Median alveolar:
- Between the upper central incisors.
- 2. Median palatal:
- Between the palatine processes
- of the developing maxilla.
- 3. Nasopalatine:
- Related to the incisive canal.
- B. Lateral:
- 1. Lateral alveolar.
- Between the upper lateral incisor and canine.
- 2. Naso-alveolar:
- In the lateral half of the floor of the nose.







### 2. Dental



- 1. Follicular: Primordial or dentigerous:
- In relation to un-erupted tooth.
- 2. Dental (Radicular): Most common cyst:
- In relation to infected tooth.
- 3. Mucoceles:
- Cystic expansion of a paranasal sinus.
- 4. Hemorrhagic bone cysts (Post traumatic or
- post-extraction).







### **Benign tumors**

#### • Osteoma:

- Commonest benign
- tumor.
- May be asymptomatic
- or may cause deformity
- or proptosis.
- X-rays are diagnostic.
- Treatment by excision.
- Fibrous dysplasia:
- Slowly growing bony
- swelling of the cheek
- in young adults (more
- common in females).







## **Locally Malignant tumors**

- Osteoclastoma:
- Young patients.
- Most common in maxilla.
- Reddish fleshy mass expanding the maxilla.
- False capsule.
- May be eggshell crackling.
- X-ray shows soap-bubble appearance (do not
- fill with dye).
- Treatment by excision.

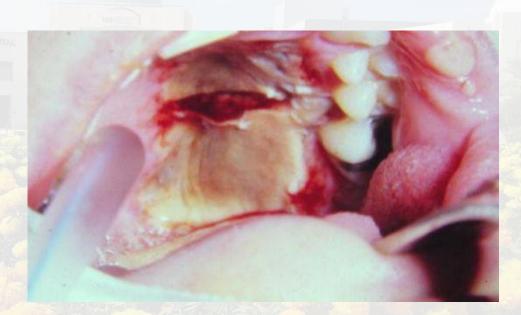




### **Locally Malignant tumors**

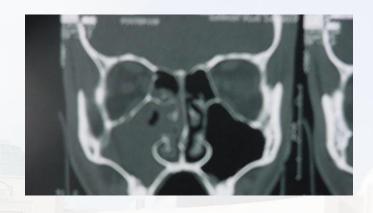
#### Adamantinoma:

- Females, above forty.
- From epithelial cell nest of
- Malassez (primitive enamel
- organ).
- More common in maxilla.
- Swelling of the maxilla
- involving the alveolus and
- palate more then the cheek.
- Loosened teeth.
- X-Rays show honey-comb
- appearance, fill with dye.
- Treatment by Excision.



### **Maxillary Carcinoma**

- Most common malignant tumour.
- Males.
- Squamous cell carcinoma.
- Maxillary sinus is one of the sites of occult primaries in head and neck.
- Clinical picture:
- Unilateral nasal obstruction, discharg
- Swelling of the face.
- Proptosis.
- Loosened teeth.
- CT scans and MRI are important.
- Treatment: combined surgical excision, radiotherapy, and may be chemotherapy.



# Pharynx

- Halitosis
- Offensive breath. Causes:
- Oral: Caries. Dental infections.
- Poor oral hygiene.
- - Extra-oral:
- Sinuses:
- Dental maxillary sinusitis.
- Chronic sinusitis.
- Tonsils:
- Chronic tonsillitis.
- GIT:
- Dyspepsia and maldigestion.
- GERD.
- Colonic problems: diarrhoea, constipation.
- Tracheo-bronchial tree: Bronchiectasis

### **Trismus**

- Limitation of Jaw opening.
- Causes:
- 1. Dental infections.
- 2. Impacted wisdom.
- 3. Suppuration around the pharynx (peritonsillar and parapharyngeal).
- 4. Otitis Externa.
- 5. Tumours.
- 6. Tetanus.

### **Adenoids**

- • 3-7 years.
- Bilateral nasal obstruction causing adenoid facies:
- 1. Open mouth and thick dry lips.
- 2. Hitched-up upper lips.
- 3. Protruding incisors, faulty bite, caries.
- 4. Receding chin.
- 5. High arched palate.
- 6. Flat nasolabial folds (expressionless face).
- 7. Mucoid or mucopurulent nasal discharge.
- 8. Inactive ala nasi.
- Investigations: X-Rays lateral skull view.
- Treatment: Adenoidectomy.

# Adenoids







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### Acute tonsillitis

- Mainly viral,
- Catarrhal or follicular.
- Beta haemolytic streptococci.
- Clinical picture:
- 1. Fever.
- 2. Sore Throat (pain may be referred to the ear).
- 3. Dysphagia.
- 4. Coated tongue.
- 5. Halitosis.
- 6. Congested tonsils (catarrhal) which may be studded
- with yellowish spots (follicular). May be false membrane.
- 7. Enlarged tender jugulo-digastric lymph nodes

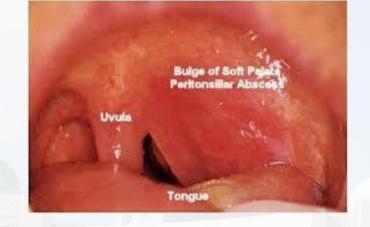
### Acute tonsillitis

- • D.D :
- other causes of sore throat.
- - Diphtheria (true membrane).
- Complications:
- 1. Peritonsillar abscess (quinzy).
- 2. Otitis media.
- 3. Autoimmune:
- Rheumatic fever.
- Acute glomerulonephritis.
- Treatment: antibiotics, gargles, antipyretics.

### Vincent's angina (Trench Fever)

- Caused by Vincent's spirochaetes and fusiform bacilli.
- Low grade fever.
- Halitosis.
- Ulcers over gums, palate, and tonsils. The ulcers are deep and covered with grey sloughs that can be removed easily (false membrane).
- Treatment: penicillin.

# Peritonsillar Abscess (Quinzy)



- Pus collection between the capsule of the
- tonsil and its bed (superior constrictor
- muscle).
- Types:
- Superior (98%): In the soft palate. Follows
- AFT.
- Lateral (2%): Dental origin (Lower wisdom).

# Clinical picture

#### . Symptoms

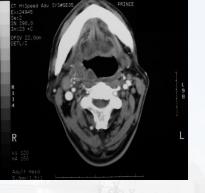
- 1. Throat pain (more severe on one side).
- 2. Dysphagia.
- 3. Halitosis.
- 4. Trismus.
- 5. Otalgia.
- 6. Fever.

#### Signs:

- 1. Tonsils are congested and pushed medially.
- 2. Soft swelling above and lateral to the tonsils.
- 3. Edematous uvula.
- 4. Torticollis.
- 5. Enlarged tender JD lymph nodes.
- 6. Coated tongue.

### **Complications:**

- 1. Parapharyngeal abscess.
- 2. Laryngeal oedema and stridor.
- 3. Septicemia.
- Treatment:
- Pre-suppurative stage (cellulitis): antibiotics,
- gargles.
- Suppurative: Drainage, antibiotics , +/-
- tonsillectomy after one month



### Parapharyngeal abscess



- Suppuration in the parapharyngeal space.
- Etiology:
- 1. Dental infections.2. Quinzy.3. Trauma.
- Clinical picture:
- Symptoms:
- 1. Throat pain.
- 2.Neck pain.
- 3.Dysphagia.
- 4. Fever and malaise.
- Signs:
- 1. The tonsil and pharyngeal wall are pushed medially.
- 2. Tender soft neck swelling.
- 3. Trismus.
- 4. Torticollis.

#### **Complications:**

- 1. Laryngeal edema.
- 2. Spread of infection to other neck spaces and mediastinum.
- 3. Jugular vein thrombosis.
- Treatment:
- 1. External drainage.
- 2. Antibiotics.

# Retropharyngeal Abscess

### **Acute**

- Infants and children.
- Clinical picture
- 1. Difficult feeding and breathing.
- 2. Chocking.
- 3. Croupy cough.
- 4. Cystic hyperemic swelling to one side of the midline.
- X-rays: Widened retropharyngeal space.
- Complications:
- 1. Stridor.
- 2. Rupture.
- Treatment:
- 1. Drainage (Trendlenburg position).
- 2. Antibiotics.

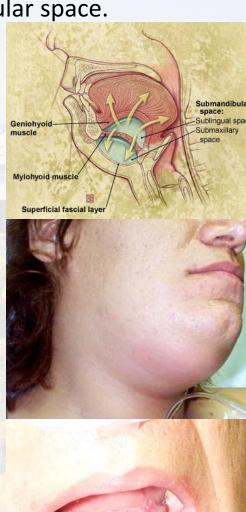


# Retropharyngeal Abscess Chronic

- - Adults.
- Cervical T.B. infection (Pott's disease).
- Clinical picture:
- 1. Dysphagia.
- 2. Chocking.
- 3. Painful cervical spine.
- 4. Soft cystic swelling in the midline.
- X-Rays is diagnostic.
- Treatment: External drainage, anti TB drugs.

### Ludwig's Angina

- Cellulitis of the floor of the mouth and the submandibular space.
- • Etiology:
- 1. Dental infections.
- 2. Trauma.
- Bacteriology: Anaerobic organisms, Staph.
- Clinical picture:
- 1. Fever.
- 2. Dysphagia.
- 3. May be stridor.
- 4. Firm tender swelling in the floor of mouth and submandibular region.
- 5. Tongue is edematous and is pushed
- upwardsand backwards.
- Complications: suffocation.
- Treatment:
- 1. Drainage.
- 2. Antibiotics.
- 3. May be tracheostomy.



# Salivary glands disorders

- Parotid, SMG, Sunligual Galnds
- Infections: Acute, Bacterial, Viral, Chronic, Fungal, TB,
- Inflammatory Auto immune diseases.
- Stones
- Benign and Malignant tumours

### Stridor

- Difficult noisy breathing due to partial
- obstruction of the upper airway.
- • Classification:
- a) Inspiratory: Laryngeal obstruction.
- b) Expiratory: Bronchial obstruction (asthma).
- c) Mixed: Tracheal obstruction.

# Dental causes of stridor

- I. Trauma:
- 1. Inhalation of denture or tooth.
- 2. Maxillofacial injuries.
- II. Inflammation:
- 1. Ludwig's angina.
- 2. Deep infections of the neck.
- III. Tumours:
- 1. Tongue.
- 2. Hypopharynx.
- IV. Laryngeal oedema:
- 1. Vincent's angina.
- 2. Allergy and idiosyncrasy.
- V. Anaesthetic problems.

# Degrees of stridor

#### I. Mild stridor:

- 1. Noisy breathing.
- 2. No dyspnea.
- 3. Suprasternal and supraclavicular retractions.

#### II. Moderate stridor:

- 1. Moderate dyspnea.
- 2. Suprasternal, supraclavicular, and intercostal retractions.

#### III. Severe stridor:

- 1. Severe dyspnea.
- 2. Tachycardia, tachypnea, and sweating.
- 3. Cyanosis.
- 4. Epigastric retractions.
- 5. If untreated the patient develops respiratory failure and calm
- down. Death eventually occurs.

# Treatment of stridor

#### Mild and moderate:

- 1. Corticosteroids.
- 2. Wet Oxygen.
- 3. I.V. fluids.
- 4. Antibiotics.
- 5. Close observation.

### Severe and progressive stridor:

- 1. Tracheostomy (tracheotomy).
- 2. Endotracheal intubation

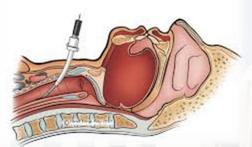
### Foreign Bodies

- May lodge in the subglottic region (may be fatal) or right
- main bronchus (most common).
- Clinical picture:
- 1. Stridor.
- 2. Cough.
- 3. Blood stained expectoration
- 4. Localized wheezes.
- Investigations:
- 1. X-rays.
- 2. Endoscopy.
- Treatment:
- 1. Bronchoscopy and removal.
- 2. May be tracheostomy.
- 3. May be thoracotomy.



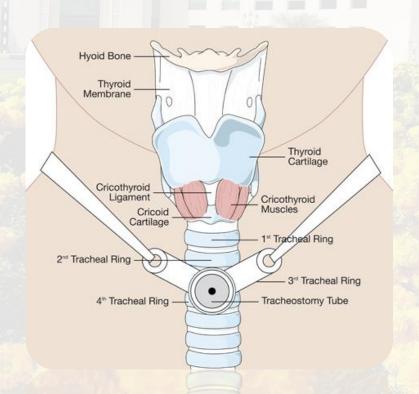
# Tracheostomy (Tracheotomy)

- Cricothyrotomy: opening in the
- cricopthyroid membrane.
- Tracheostomy: Opening in the trachea.
- Indications:
- 1. Severe stridor.
- 2. Progressive stridor.
- 3. Non-obstructive indications as respiratory
- failure and secretory obstruct



### Levels

- I. High: 1st and 2nd tracheal rings.
- II. Middle: 3rd and 4th tracheal rings.
- III. Low: 5th and 6th tracheal rings.
- Complications:
- A. During operation:
- 1. Hemorrhage.
- 2. Apnea.
- 3. Cardiac arrest.
- 4. TE fistula.
- 5. Pneumothorax.



# B. Early postoperative

- 1. Surgical emphysema.
- 2. Obstructed tube.
- 3. Dislodged tube.
- 4. Wound infection.
- 5. Chest infection.
- 6. Atelectasis.

## C. Late postoperative

- •
- 1. Tracheal stenosis.
- 2. Rupture of innominate vessels.
- 3. Failed decannulation.
- 4. TE fistula.
- 5. Contracted neck scar.

### **Others**

- H&N Injuries and Fractures of facial bones & Jaw
- H&N Congenital disorders Cleft lip and cleft Palate,
- H& N post-op reconstruction and P. obturator
- MAD and Snoring tongue base suspension with jaw
- Dental clearance pre-radiotherapy.
- Dental Complications post ENT procedures.

### Conclusion

There is a huge overlapping between ENT and dental pathology we might need to have joined clinics to discuss such cases like routine MDT meetings for H&N cancer with other discipline like plastic surgeon, Macmillan nurse, SALT, oncologist, Radiologist

