Methods: Three patients with focal temporal and frontal epilepsy and one with multi-focal rolandic epilepsy were investigated using stereoelectroencephalographic (SEEG) method. We have applied single pulse bipolar stimulation on different contacts pairs and recorded the responses on other 62 contacts. Constant current biphasic pulses having variable amplitude in the range 1 to 5 mA from pulse to pulse were applied in a pseudo-random sequence using a programmable stimulator (Guideline LP+, FHC Inc, Bowdoin, ME). We mapped the propagation of the stimulus through the epileptogenic network by analyzing CCEPs. We looked for specific evoked responses that are known to represent a biomarker of the epileptogenicity, like high-frequency oscillations (HFO) and delayed responses (DR). 3D maps of the responses have been created and exported as DICOM series and loaded in the surgical planning software to be visualized along with patient's anatomy, as seen on the standard MRI scans.
Results: 3D activation maps were created for the qualitative (HFO, DR) responses. The activation thresholds based on the fast responses stimulus-response curves and the additional information provided by stimulation-evoked DRs and HFOs contributed to a more accurate localization of the SOZ. HFOs showed 53.8% SOZ specificity based on response location (RL) (Fig. 1), and 57.2% SOZ specificity SOZ based on stimulation location (SL). DRs showed 40.8% SOZ specificity based on RL (Fig. 2) and 59.9% SOZ specificity based on SL. Results were retrospectively analyzed and were correlated with the standard method that uses spontaneous activity for delineating the SOZ.

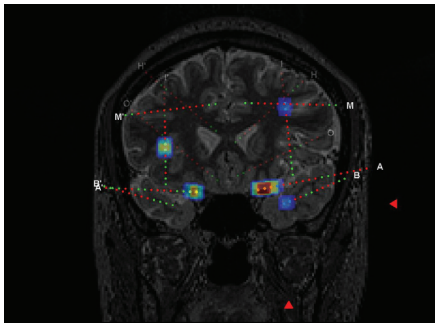

Figure 1

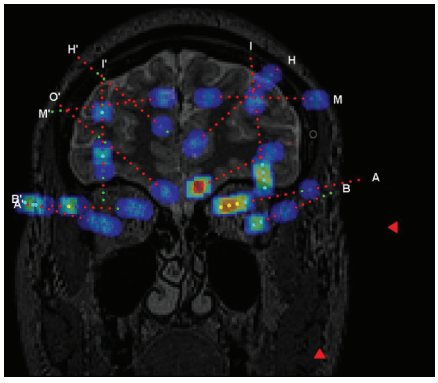

Figure 2

Conclusions: 3D maps in stereotactic coordinates of the responses to single pulse stimulation can provide valuable information to delineate SOZ and the epileptogenic networks.

P104
ESES spectrum – what lies underneath, treatment options and the importance of EEG monitoring

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Question: ESES (Electrical status epilepticus during slow sleep) is thought to be a rare phenomenon representing a non-convulsive status epilepticus, which characterizes the epilepsy syndromes BECTS (Benign Partial Epilepsy of Childhood with Centro-temporal Spikes), CSWS (continuous spikes and waves during slow sleep) and Landau Kleffner Syndrome.The brain can look normal at MR scan or can show various abnormalities. We propose to study the anatomic background and efficacy of treatment for diagnosis and monitoring in these cases.
Methods: We have studied retrospectively and prospectively 5 children over a period of three years. Three children had normal brain MRI and received different medication Sulthiam, Dexametasone and ACTH; two patients with unprogressive structural brain damage were on double therapy, ACTH with Ethosuximide and Dexametasone with Levetiracetam. EEG was performed in the awake state, drowsiness and slow sleep at the beginning of treatment, after a week, a month and then every three months.
Results: Correlating clinical picture, EEG pattern and evolution, two patients were diagnosed with BECTS, one with Landau-Kleffner Syndrome, one with hypoxic-ischaemic encephalopathy, one with schizencephaly. The quickest response on EEG was obtained in the most clinically affected patient with Dexamethasone and Levetiracetam. A fragmentation of EEG pattern was seen after a week when we treated with Dexamethasone and Ethosuximide. All five patients displayed at one month of treatment improved EEG models and resolution of ESES.
Conclusions: In all our cases the anatomical findings did not influenced the therapeutic response. We emphasize the importance of EEG monitoring with awake, drowsiness and sleep recordings, even in the absence of clinical seizures. Sleep EEG represents the most important tool in diagnosis and treatment.

P105
Delayed recognition of seizure refractoriness in temporal lobe epilepsy with mesial temporal sclerosis

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Introduction: Temporal lobe epilepsy (TLE) with mesial temporal sclerosis (MTS) constitutes the most frequent indication of epilepsy surgery in adults. Surgery is often delayed, due to several factors: initial benign presentation, with periods of remission; delay in the recognition of refractoriness; and access to epilepsy surgery programs. Delay in surgical treatment is of particular importance in developing countries, where access to surgical treatment is often very difficult.
Objectives: To study a population of patients with TLE-MTS who underwent surgical treatment in an epilepsy surgery program in Brazil, and to assess the occurrence of remission periods prior to surgery and time until refractoriness.
Patients and methods: We included 120 patients (67 female) with unilateral TLE-MTS submitted to surgical treatment - 44 right anterior temporal lobectomy (ATL), 76 left ATL; 1 patient was submitted to left selective amygdalo-hippocampectomy (ASH). All patient underwent a comprehensive pre-surgical evaluation, including EEG, prolonged video-EEG monitoring, high-resolution MRI, as well as neuropsychological, psychiatric and social evaluations. Remission period prior to surgery was defined as a period of at least one year free of all seizures, after onset of habitual seizures. Time until refractoriness was defined as the time from epilepsy onset until poor seizure control was observed.
Results: Thirty-four patients (28.3%) had at least one remission period, which ranged from 1 to 17 years (mean 3.8 years; median 2 years). Time until refractoriness ranged from 1 to 21 years (mean 5.46 years, median 4 years). Epilepsy duration ranged from 10 to 57 years (mean 26.3 years).
Discussion: Good seizure control and quality of life improvement are the goals of epilepsy surgery. Delayed recognition of refractoriness due to several factors, including the occurrence of remission periods, may postpone surgical treatment and lead to additional morbidity in TLE-MTS patients. Efforts must be made in order to identify potential candidates.

P106
Fronto-parietal coherence in the assessment of short-term memory loss in patients with partial epilepsy

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Background: Recently, examines the role of the fronto-parietal synchronization in memory processes. There is evidence of changes in resting state cortical EEG theta rhythm in patients with mild cognitive impairment and