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Epilepsy

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Epilepsy
Refractory status epilepticus with possible autoimmune etiology treated with plasma exchange

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Epilepsy has many etiologies including structural, metabolic, genetic and unidentified causes. Recently, autoimmune mechanisms found to be the cause of some of them. Here we present a19 years-old female who present with Status Epilepticus (SE).

19 years old female presents with confusion and personality changes with 4 days of duration. At the end of the 4th day she had 4 consecutive generalized tonic clonic seizures and admitted to our emergency clinic. In the first neurological evaluation she was unconscious with no motor impairment. She had a history of upper respiratory tract infection (URTI) associated with low-grade fever in the previous week. She had given phenytoin and levetiracetam intravenous infusion in order to treat SE. Extensive laboratory examination including cerebrospinal fluid revealed no cause of SE. EEG shows generalized slowing and waxing and waning pattern of periodic lateralized epileptiform discharges mostly localized on the right parietotemporal area. On the 5th day of her admission, she transferred to the ICU for intravenous midazolam infusion. There is no change either in her mental status or EEG, after 3 days of midazolam infusion. We decided to make plasma exchange (PLEX) for Refractory SE (RSE) treatment. After completion of the2nd PLEX both consciousness level and EEG improved.

Autoimmunity was the suspected etiology in our case because she had a history URTI, low-grade fever and very good response to PLEX. PLEX should come to our mind in RSE cases especially with suspected autoimmune etiology.

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WFN15-0445
Epilepsy
Pharmacogenetics of ATP binding cassette transporter - MDR1 gene polymorphism (C3435T) and response to antiepileptic drug phenytoin pharmacokinetics in epilepsy

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Background: Epilepsy is a common chronic neurological condition that is characterized by recurrent unprovoked seizures. A synonymous C to T variant at position 3435 (3435C > T) is one common polymorphism of the multidrug resistant 1 (MDR1) gene, which encodes the major transmembrane efflux transporter P-glycoprotein and form an important class of proteins for regulating pharmacokinetics. Phenytoin, a widely used anti-epileptic drug, exhibits marked inter-individual variation in Pharmacokinetics and attributed to genetic factors such as MDR1 polymorphism.
Objective: The present study was undertaken to investigate the influence of MDR1 variant genotypes on Phenytoin Pharmacokinetics in the epileptic patients from Saudi Arabia.
Material and methods: 25 epileptic individuals with non-responders to phenytoin monotherapy and 25 epileptic subjects with responders to phenytoin monotherapy were recruited after getting their informed consent and genotyped for MDR1 (3435C > T) polymorphisms by Polymerase chain reaction-restriction fragment length polymorphisms (PCR-RFLP Method). Allele frequencies were derived from genotypic data Phenytoin plasma levels were analyzed by reverse phase HPLC method and Pharmacokinetic parameters were estimated by non-compartmental analysis using PK solutions software.
Results: The MDR1 (3435C > T) polymorphism was seen to be in Hardy–Weinberg equilibrium and showed significant allelic association and genotypic association between non responders and responders to phenytoin ($P < 0.01$). The pharmacokinetics parameters in homozygous mutant group showed longer half-life ($t1/2 = 33.26$ hrs) and less clearance rate ($CL = 0.42$ L/hr) when compared to wild type group ($t^{1/2} = 19.2$ hrs, $CL = 0.8$ L/hr).
Conclusion: Our finding suggest that the MDR1 genetic polymorphism influences Phenytoin Pharmacokinetics. So the therapeutic outcome of MDR1 (C3435T) genotype together with pharmacokinetic measurements might be useful in the context of improving the individualized efficacy of therapy in non-responders to phenytoin.

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Epilepsy
Association between epilepsy and depression

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This study aimed to estimate the prevalence and underdiagnosis of depression in patients with epilepsy, identifying possible association between type, etiology and medications. It is a cross-sectional study by

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primary data collection, using the Beck Depression Inventory (BDI) as a collection tool. The prevalence of depression in epileptic patients is 45%, the sample calculation for a confidence level of 95%, with difference acceptable of 10% was 96. The average age was 38 years (SD = 14), 55% were male; 59% of seizure types were generalized tonic-clonic seizures; 8% were typical absence and 7% tonic; 12% of the seizures were simple and 83% generalized. The etiology were idiopathic in 52% of the cases, 17% were post-traumatic and 9% were caused by infections. The medications most commonly used were carbamazepine (57%), phenobarbital (22%) and valproic acid (19%). The overall median BDI score was 14 (SD = 11). Minimal or no depression was observed in 47% of the patients, 14% were mild, 24% moderate, 12% severe and 36% of patients had major depression. Phenobarbital showed statistically significant increase in the indices of the BDI ($p = 0.004$) and in the major depression ($p = 0.02$). These patients were three times more susceptible to depression. It was concluded that epilepsy has a higher prevalence of depressive symptoms compared to the general population and to other neurological diseases, indicating a possible pathophysiological association. Its prevalence was 36%, with 97% underdiagnosis. It was not found a relation between seizure type and etiology. Phenobarbital showed three times more chance of developing depression.

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Epilepsy
Neuroprotective effects of Cannabidiol in the acute pilocarpine model of temporal lobe seizure in rats

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Background: It has been estimated that about 30% of people with epilepsy remain pharmacoresistant. Canabidiol (CBD), a major non-psychotropic constituent of Cannabis sativa, has been demonstrated that could be a possible antiepileptic and neuroprotector agent.
Objective: Here, we report the effects of CBD in the intrahippocampal pilocarpine rat model through evaluation of behavioral and hippocampal neuropathology.
Material and methods: CBD (10 mg/Kg, i.p.) was administered in rats before status epilepticus (2 h-SE) induced by intrahippocampal pilocarpine (group CBDSE) and compared to controls (group PILO-SE) or vehicle. Groups were monitored for latency and severity of sustained seizures. After behavioral analysis, animals were sacrificed and had hippocampal sections analyzed for Neuronal nuclei (NeuN) and NMDA-NR1 immunohistochemistry at 1 and 3 days after SE.
Results: CBDSE group, when compared to PILO-SE, showed: 1) increased latency to status epilepticus latency and lower seizure severity (ANOVA, $p \leq 0{,}001$); 2) higher number of NeuN immunopositive cells in the fascia dentata (FD), CA3a and CA1 (ANOVA, $p < 0{,}001$); 3) decrease NMDA-NR1+ immunoreactivity in the FD, CA3a and CA1 (ANOVA, $p < 0{,}003$).
Conclusions: Our findings demonstrated that treatment of CBD before SE had anticonvulsant effect and promoted protective effects on hippocampal cells. These results reinforce the evidence of the therapeutic potential of CBD in epileptic disorders.
Keywords: Epilepsy, Cannabidiol, Neuroprotection
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Epilepsy
Electrographic seizures persisting through pharmacologically induced burst suppression: a case of anti-gaba(b)-receptor limbic encephalitis

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Background: Anti-GABA(B)-receptor encephalitis is a newly recognized etiology of previously unexplained encephalopathy and encephalitis. The associated syndrome leads to neuropsychiatric symptoms, impaired consciousness, and seizures. Thus far there have been no reports of electroencephalography (EEG) findings that are specific to anti-GABA(B)-receptor encephalitis. In our effort to better characterize these findings, we have identified one patient with an EEG pattern that could be unique to this disorder.
Objective: To report a novel EEG finding in a patient with new-onset refractory status epilepticus (NORSE) secondary to anti-GABA(B)-receptor encephalitis.
Methods: This is a case report of a 68 year old Caucasian male who presented with a subacute course of personality changes, cognitive decline, and seizures. The MRI initially showed signal changes in the right temporal lobe and seizures of right temporal onset. After one week of seizure control on anti-epileptic drugs, there was disease progression, with MRI signal changes showing subsequent involvement of the bilateral temporal lobes, and continuous EEG showing seizures of bitemporal onset.
Results: Given non-convulsive status epilepticus (NCSE) despite high doses of anti-epileptic drugs, burst suppression was induced with anti-seizure anesthetic agents. The patient continued to have seizures simultaneously at the same time as burst suppression. A CSF antibody to the neuronal surface antigen [GABA(B) receptor] was identified.
Conclusion: Electrographic seizures persisting through burst suppression is a novel EEG finding that could be unique to anti-GABA(B)-receptor encephalitis. This EEG pattern has not been previously reported in the literature.

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Epilepsy
Use of epinet database for observational study of status epilepticus in Auckland, New Zealand

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Background: The EpiNet database has been established to facilitate clinical research in epilepsy. It has now been adapted to collect detailed information on patients with status epilepticus (SE).
Objectives: To conduct an incidence study of SE in Auckland; to develop EpiNet for multicentre clinical trials in SE.

Methods: New forms have been created in EpiNet to record detailed information regarding SE. The forms precisely record time of onset and duration of SE. The time and route of administration of various treatments - conventional anti-epileptic drugs and other treatments (anaesthetic agents, steroids, other immunosuppressive drug treatment, intravenous immunoglobulin, plasma-exchange, ventilation, cooling, diet) - is recorded in a similar manner.

A prospective, incidence study of SE is underway in the Greater Auckland area (population 1.5 million). Information is being systematically collected over 12 months from early April 2015 on all patients over 4 weeks of age who have a seizure of more than 10 minutes duration (definition of SE for this study). Patients will be followed for 2 years.

We have obtained patient and Institutional Review Board (IRB) approval, as necessary.

Results: Descriptive statistics will be provided on demographic and clinical variables, and the incidence of SE in Auckland (per 100,000 person years with 95%CI) will be determined . The adjusted hazard ratio will be calculated for possible prognostic factors (age, sex, ethnic group, seizure type, aetiology, and duration).

Conclusions: The incidence, causes, responses to treatment, and outcomes of SE in Greater Auckland will be determined.

The EpiNet database is now able to conduct multi-centre randomised controlled trials in SE.

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Epilepsy
Establishment of first anti-epileptic drug (aed) registry in epinet database

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Background: The EpiNet project has been established to undertake investigator-led clinical research in people with epilepsy. Randomised controlled trials in people with recently diagnosed epilepsy commenced in May 2015. Not all patients are willing to participate in formal trials, and trials cannot be run in all centres.

Objective: To establish an international multi-centre registry of patients who commence a first anti-epileptic drug for newly diagnosed epilepsy.

Material and methods: EpiNet investigators have been asked to register patients with newly diagnosed epilepsy who start their first AED. They are asked why they commenced the particular drug, and to update the record whenever patients are seen again. Records are to be updated at least once per year. We want to know how patients respond to the AED; if they have further seizures, if the AED is changed to another drug, or a second AED is added, and why changes are made. This registry will serve as a 'real-world' comparison for the EpiNet-First randomised controlled trials.

We have obtained patient and/or Institutional Review Board (IRB) approval, as necessary.

Results: As of the beginning of May 2015, 147 patients had been entered into the First AED registry within the EpiNet database. This particular registry has only recently been commenced, and these comprise 2% of patients in the EpiNet database. We expect numbers to grow rapidly.

Conclusion: The First AED registry will provide extremely valuable information about prescribing habits of neurologists and real-world data regarding effectiveness of AEDs in recently diagnosed epilepsy. Neurologists who are not currently participating in EpiNet are welcome to join this project.

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Epilepsy
The epinet-first trials now recruiting patients with newly diagnosed epilepsy

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Background: The EpiNet project is being used for clinical research in epilepsy. It has been established to conduct investigator-led pragmatic clinical trials.

Objective: To determine the optimal treatment in newly diagnosed epilepsy.

Patients and methods: The EpiNet-*First* trials are 5 closely related, open, pragmatic, randomised controlled trials in which levetiracetam is being compared with standard AEDs in patients with new onset epilepsy. The primary endpoint is 12 months sustained seizure freedom. Patients are allocated to the different trials according to the type of seizures they experience.

Trial 1 Patients with focal seizures are being randomised (1:1:1) to levetiracetam or lamotrigine or carbamazepine.

Trial 2 Patients with generalised seizures are being randomised (1:1) to sodium valproate or levetiracetam

Trial 3 If sodium valproate is not suitable, patients with generalised seizures are being randomised (1:1) to lamotrigine or levetiracetam.

Trial 4 Patients with seizures of unknown nature are being randomised (1:1:1) to either levetiracetam, lamotrigine, or sodium valproate.

Trial 5 If sodium valproate is not suitable, then patients with seizures of unknown nature are being randomised (1:1) to levetiracetam or lamotrigine.

We have obtained patient and/or Institutional Review Board (IRB) approval, as necessary.

Results: Recruitment commenced in May 2015. These multicentre trials are continuing. 4400 patients need to be recruited across the five trials.

Conclusion: Neurologists with an interest in epilepsy are encouraged to participate in these international trials. The EpiNet project comprises an exciting new approach to clinical research in epilepsy. These trials will be the first of many undertaken by the EpiNet study group.

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Epilepsy
Aetiology, semiology, radiological, electroencephalogram findings and prognosis in patients presenting with first episode of seizure: a prospective study

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Background: Sparse data are available from developing countries like India regarding aetiology, clinical manifestations and laboratory characteristics and outcome in patients presenting with first episode of seizure.
Objective: Prospective study of study of aetiology, semiology, radiological, EEG findings and prognosis in patients presenting with first episode of seizure.
Material and methods: We prospectively studied patients 100 presenting with first episode of seizure to our tertiary care teaching hospital at Tirupati, South India between April 2013 and December 2014. All patients underwent clinical evaluation, laboratory testing including cerebrospinal fluid (CSF) analysis, EEG and CT/MRI imaging of the head.
Results: Their mean age was 35.8 (range 1 to 82) years; majority (25%) were in third decade of life. There were 55 males. Positive family history of seizures was evident in 8%. Most common type of seizure was GTCS (59%); focal seizures with secondary generalization (28%). Most common aetiology included idiopathic (31%) followed by CNS infections (19%), venous infarct (17%), metabolic (10%), among others. CT brain was abnormal in 44/99 and MRI brain was abnormal in 36/45 patients tested respectively. EEG was abnormal in 72%; most common abnormality was slow waves ($n = 45$), interictal discharges ($n = 25$); 2 patients had benign rolandic epilepsy. All except one patient ($n = 99$) were treated with antiepileptic drugs. Recurrence of seizures occurred in 18/84 patients who had followed-up regularly for six months.
Conclusions: Semiological, aetiological causes identified and follow-up data documented may be helpful for health planners for developing guidelines for managing this condition in the Indian setting.

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Epilepsy
Correlations between cerebellar and mesial temporal structures volumes with cognitive impairment and behavioural distrubances in patients with epilepsy

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Background: The cerebellum and temporal lobes are involved in cognition and behaviour. Epilepsy and its treatment can cause cognitive and behavioural deterioration. Reduced volumes of cerebellum and mesial temporal structures are found in patients with epilepsy (PWE).
Objective: The aim of study was to investigate volume changes of cerebellum and mesial temporal structures in patients with epilepsy in MRI and to find correlations with cognitive and behavioural data.
Material and methods: 65 patients with idiopathic epilepsy (G1): 45 with focal seizures, 20 with generalized seizures, and 30 healthy control subjects (G2) matched for sex, age (range 18-55 years) and education were included. All patients undergone detailed neurological examination, had their whole brain, cerebellar and the mesial temporal volumes measured with MRI and were tested with the battery of neuropsychological tests. Psychopathological symptoms were assessed with Beck's Depression Inventory (BDI) and State-Trait Anxiety Inventory (S-TAI)were used.
Results: Significant differences in neuropsychological functioning, severity of depressive and anxiety symptoms were found between G1 and G2 group ($p < 0.05$). PWE presented with deficits of attention, verbal memory and executive functions, mostly working memory and verbal fluency. Reduction in cerebellar volume of about 7% in PWE compared to controls ($p < 0.05$) correlated with attention and verbal memory deficits. In PWE a significant reduction of hippocampi volume (>5%, $p < 0.05$) was also found.
Conclusion: Volume changes of cerebellar and mesial temporal structures are markers of neurodegenerative processes in PWE associated with cognitive and behavioural worsening.

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WFN15-1549
Epilepsy
Self-reported drug non-adherence in an epilepsy clinic. A retrospective review

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Objective: The primary objective of this research is to investigate the prevalence of self-reported drug non-adherence with specific antiepileptic drugs (AED). The secondary objective is to analyze the main causes, as reported by patients, of drug non-adherence to each AED.
Background: Several factors are associated with medication non-adherence. Non-adherence to AED has been related to loss of seizure control. Understanding patient's reasons for non-adherence is crucial to help improve seizure management.
Design/methods: We retrospectively studied patients older than 18 years, on AED monotherapy, that self-reported medication non-adherence to their primary epileptologist at the Loyola Epilepsy Comprehensive Center from October 2014 to March 2015.
Results: Of 163 patients enrolled, 26% reported non-adherence to the medication. Levetiracetam, lamotrigine, carbamazepine, phenytoin, and valproate were the most frequently used drugs. The incidence of self-reported non-adherence was relatively similar for all these drugs (22% to 33%). Lamotrigine showed the highest adherence ratio (77.8%) and phenytoin and levetiracetam the lowest (66.7% and 68.2% respectively). The most common cause of non-adherence for all AED was forgetfulness (44% of the cases). The cause of non-adherence was not specified in 23% of the cases. The most common adverse event reported as a cause of non-adherence was irritability for patients taking levetiracetam (35%).
Conclusions: Adherence rate was similar for all AED. Forgetfulness is still the most common cause of non-adherence for most of the studied drugs, except for levetiracetam, with which the most common reported cause was irritability.

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Epilepsy
Controversial bleeding in epilepsy surgery in subjects under valproic acid treatment

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Background: The need of reducing valproic acid (VPA) before neurosurgery is still controversial. In our experience surgeons have the personal impression that patients using VPA have a higher predisposition to bleeding than those using other antiepileptic drugs. Recent clinical and experimental studies failed to demonstrate laboratorial abnormalities in coagulation and hemostasis tests.
Objective: To evaluate the amount of surgical bleeding in a homogenous group of patients using VPA who underwent epilepsy surgery for unilateral mesial temporal lobe epilepsy with hippocampal sclerosis (mTLE-HS).
Patients and methods: We compared nine patients taking VPA (VPA+) at the time of surgery with 18 disease controls who were not taking VPA (VPA-). Groups were matched for neurosurgeon, type of surgery and age. We reviewed clinical charts and applied non-parametric tests (Mann-Whitney U-test) to compare the levels of haemoglobin (Hb) in three different times points: pre-surgery, immediately post-operative (iPO) and first day post-operative.
Results: Patients were matched for gender and pre-operative Hb levels. Both groups were equally transfused ($p = 1$, chi-square). However, VPA+ group presented lower Hb levels in iPo ($p = 0{,}035$). There was no difference between levels of Hb in the first pos-operative day.
Conclusion: Despite the small number of patients, we avoided the bias of different techniques and surgeon expertise by matching the groups. Therefore our results demonstrated a significant reduction of Hb levels immediately after the surgery in VPA+. These differences reinforce the necessity of further studies to clarify the real need to reduce the VPA before neurosurgery.

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WFN15-1328
Epilepsy
Temporal lobe epilepsy surgery: is prolonged outpatient ambulatory eeg enough? Yes, when everything concurs

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Objective: Inpatient Video EEG Monitoring (VMEEG) is the gold standard in patients with temporal lobe epilepsy who are under epilepsy surgery evaluation. VMEEG is expensive and not available for a significant proportion of patients in low and medium income countries. The purpose of this study is to assess the usefulness of prolonged outpatient ambulatory EEG (AmbEEG) in presurgical evaluation in patients with refractory temporal lobe epilepsy.
Methods: We analized 30 refractory patients referred for AmbEEG as part of presurgical evaluation. The prolonged AmbEEG lasted 1-5 days (average 1.5 days). The study was done without medication withdrawal. EEG data and clinical records were reviewed. Patients were followed by prospective clinical interviews.
Results: Among the 30 patients, 5 had complex partial seizures during the study, all had mesial temporal sclerosis on the same side of seizure onset. They also had congruent epileptiform interictal activity and underwent surgery with good outcome.

Surgery was not recommended in 7 patients due to normal MRI associated with one of the following: 1) Presence of bilateral independent and extended foci, 2) Independent multifocal interictal epileptiform activity, 3) Generalized interictal epileptiform activity.

In six patients AmbEEG showed unilateral anterior temporal epileptiform interictal activity ipsilateral to mesial temporal sclerosis, but no seizures were recorded. These patients were later studied with VMEEG; all had seizures with congruent lateralization. They underwent temporal lobe surgery and had a good outcome.

No epileptiform abnormalities were observed in the remaining 12 patients.
Conclusions: AmbEEG may be used instead of VMEEG in confirming or ruling out epilepsy surgery in patients with refractory temporal lobe epilepsy. Alternatively, AmbEEG can be used to select patients for inpatient VMEEG in a context of limited resources.

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WFN15-1497
Epilepsy
Status epilepticus in emergency: our experience in a tertiary care centre in north-western india

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Background: Status epilepticus (SE) is one of the most commonly encountered medical emergencies.
Objective: To examine the etiology and outcome of adult patients with SE presenting to our center.
Patients and methods: A prospective study of patients with SE was conducted from January 2009 to December 2013. Detailed history, clinical examination, baseline investigation, neuroimaging electroencephalogram findings were recorded. Standard protocols were used for treating SE and patients were followed-up for 2 weeks after discharge. Quantification of precipitating factors was done using proportion, mean and standard deviation.
Results: 102 consecutive patients were studied. Mean age was 37.43 ± 16.56 years (range 13 to 78 years). Male to female ratio was 4:1 while upto 57% were known cases of seizure disorders. Generalized tonic-clonic seizure was commonest presentation (upto 90%). Majority had convulsive SE. Poor drug compliance was the commonest precipitant (48% patients), followed by central nervous system infection (21% patients). Alcohol intake contributed upto 12% cases, whereas, precipitating factor couldn't be traced in 7.5% patients'. In 55% patients, SE was controlled with no recurrence or complication and in 25% there was recurrence after control of SE. Persistent sequelae (cognitive and psychosomatic dysfunction, neurological deficit etc.) was noted in 15% of patients and upto 5% patient had mortality within 2 weeks of follow-up.
Conclusion: Poor drug compliance (in established cases of seizure disorders) and central nervous systems infections/structural lesions (in new-onset cases) were commonest causes of SE in our population. Conventional first line antiepileptics were able to control seizures up to 57% patients.

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WFN15-0060
Epilepsy
The knowledge, perception and attitude towards epilepsy among medical students in Uyo, Southern Nigeria

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Background and aim: Epilepsy remains a stigmatized disease especially in sub Saharan Africa. Lack of information and poor knowledge and illiteracy have been blamed as the cause of the stigmatization. Epilepsy is customarily stigmatized as studies all over Africa have shown. This stems from the fact the traditional African belief views epilepsy as a spiritual disease. The resultant effect is that person with epilepsy are stigmatized and ostracized in the society. We studied the knowledge, perception and attitude towards epilepsy amongst medical students comparing the knowledge of the clinical students with that of the basic medical students.
Methodology: The participants were medical students in University of Uyo. We administered questionnaires to the participants. The questions explored the knowledge of etiology (perceived and medically proven). We also explored the beliefs on infectivity of epilepsy, treatment and knowledge of anti-epileptic medications. We also explored their attitudes and perception to persons with epilepsy.
Results: Most of the medical students do not have a good knowledge of epilepsy surprisingly. The knowledge however was much better amongst the clinical students. There is some difference in the attitudes of the clinical students as compared with the basic students.
Conclusion: There is a knowledge gap in epilepsy even amongst medical students. The students still harbor the traditional African beliefs that epilepsy is a spiritual disease. Mercifully, the knowledge is better amongst the clinical students. This is not surprising since the clinical students have had clinical exposure to epilepsy and the management.

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Epilepsy
The use of zonisamide as add-on therapy in refractory partial epilepsy: experience from an epilepsy referral centre in a developing country

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Background: Newer anti-epileptic drugs (AEDs), with their improved efficacy and better side-effect profiles, may be useful armamentarium in controlling seizures in refractory epilepsy, especially as add-on therapy for partial seizures.
Objective: We investigate the effectiveness and tolerance of zonisamide, a newer-generation AED, in the treatment of refractory epilepsy.
Patients and methods: Patients with refractory partial epilepsy being followed up at the Penang General Hospital, an epilepsy referral centre in Malaysia, who were started on zonisamide were being included. Patients' medical records were reviewed for their demography, epilepsy classification, disease duration, and seizure frequency.
Results: A total of 9 patients with refractory partial epilepsy were being commenced on zonisamide. Their mean age was 34.9 years, with mean disease duration of 11 years. For epilepsy classification, 3 patients were having lesional epilepsy (mesial temporal lobe epilepsy), 4 patients were having refractory epilepsy post-CNS infection, and 2 were having cryptogenic partial epilepsy. Zonisamide was added as 3rd AED in 2 patients, as 4th AED in 6 patients, and as 5th AED in 1 patient. Seven of the 9 patients (78%) reported at least a 50% reduction in their seizure frequency after commencing zonisamide, including 1 patient who became seizure-free, after a mean duration of 10 months. None of those patients reported any side effects toward zonisamide.
Conclusion: Zonisamide is useful in reducing seizure frequency in refractory partial epilepsy, including lesional epilepsy, and thus improving patients' quality of life. This is particular useful in developing country where epilepsy surgery is not fully developed yet.

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427
WFN15-1578
Epilepsy
Assess the qualitiy of life and associated factors in adults with epilepsy using quolie-10

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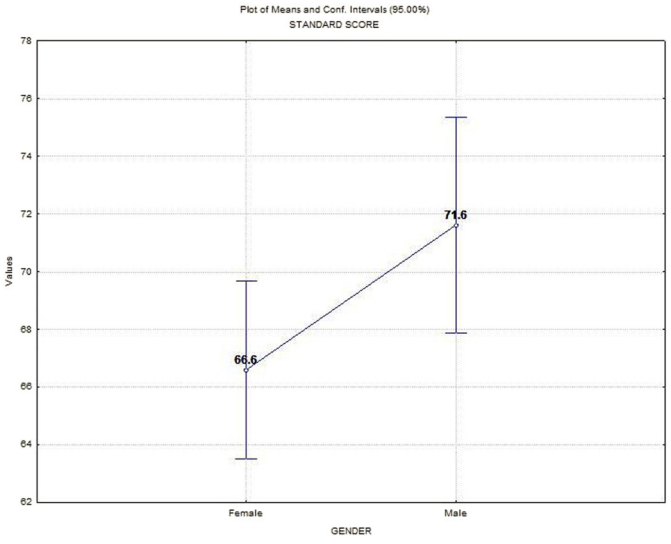
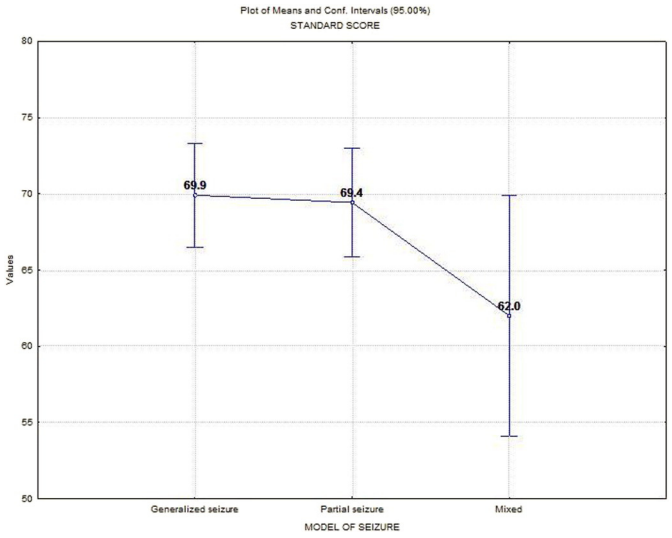
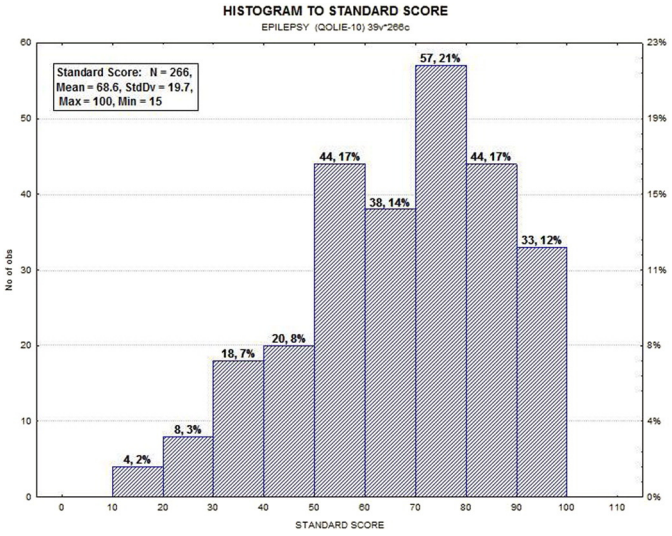
Background: It is important to assess the Quality of life (QOL) in patients with epilepsy and the factors associated such a way we could detect if the patient requires a multidisciplinary management.
Objective: To assess the QOL in patients with epilepsy and factors asociated
Patients and methods/Material and methods: Two-hundred epileptic patients, above 18 years, referred to Hospital General of Mexico were included. The patient weighted Quality Of Life In Epilepsy (QOLIE-10) was assessed. Patient's socio-demographic, disease features and treatment were also compared. A trained neurologist obtained all the information. The study was conducted to be a cross-sectional study. Statistical analysis: Statistica 8.0, Analysis of variance. CI: 95%, p: <0.05.
Results: An ANOVA showed that gender has statistical significance in QOL [(male vs female, $p < 0.04$)]

The variables occupation, education, frequency of seizures, anti-epileptic drugs, and polypharmacy were not statistically significant.

The median standard score obtained was 70.
Conclusion: Male showed higher quality of life than female group statistically significant.
I have obtained patient approval, as necessary.







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428
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Epilepsy
Cerebellar stimulation induces antiepileptic substances appearance in cerebrospinal fluid

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Background: Activation of antiepileptic brain structures is followed by the appearance of peptides in CSF. Properties of antiepileptic factors elaborated into CSF are not properly identified.
Objective: Antiepleptic activity and characteristics of CSF fraction, which are got via HPLC of CSF after cerebellum electrical stimulation (ES).
Methods: CSF was obtained by suboccipital puncture in 15 min from the moment of cerebellar ES (100 Hz, 50-80 mcA) in male cats(3.0-3.5 kg) under ether anesthesia. Gel-filtration of CSF samples was made on Sephadex G-75 ("Pharmacia", Sweden) and a glass column 2.6 mm x 80 mm (Zorbax "Du Pont", USA), and eluted fractions have been collected. Later on fractions were adminsitered i.c.v. to Wistar rats in a dosage of 10 ng protein/ rat, and in 10 min generalized seizures were induced via picrotoxin i.p.administration (2.0 mg/kg).

ANOVA method followed by Newman – Keuls and Kruscal-Wallistest was used for statitistcs.
Results: Administration of fraction N4(10 mcl) with molecular weight approximately 14.000 Da produced increase of the picrotoxin-induced seizure latency by 40.5% when compared with control ($P < 0.05$) as well as prevented seizures of the score 2-5 ($P < 0.05$). Both DADLE i.c.v. (10 nmol) and incubation of fraction with pronase abolished antiseizure action of fraction N4. Further HPLC elution of fractionN4 revealed it heterogenity.
Conclusions: Electrical stimulation of cats' cerebellar cortex caused antiepileptic factors of peptide nature appearance in the CSF which caused suppression of generalized picrotoxin-induced seizures inrats-recipients. Antiepileptic effects were realized via activation of delta-opioid receptors.

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429
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Epilepsy
Epilepsy after head injury

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Background: Traumatic brain injury (TBI) is an important cause of Epilepsy. Why some patients develop seizures is currently unknown.
Objetive: Determine the incidence of Epilepsy after 8 years of TBI, and identify factors that could be associated with Posttraumatic epilepsy (PE).
Patients and methods/Material and methods: We followed, during 8 years, 134 patients with TBI who were admitted to ICU of Mutual Security Hospital, from January 2005 to December 2006.

This study was approved for scientific ethics committee of our institution.
Results: Thirteen (9.7 %) patients developed PE during 8 years of follow up. Patients who developed PE showed a Glasgow score at rescue significantly lower than patients who did not develop PE (9 v/s 12 points respectively; $p < 0{,}0008$). The mean of days at ICU was significantly lower for patients who did not develop PE compared with patients who developed PE (8,2 v/s 19,3 respectively;$p < 0{,}001$). The mean of days at mechanical ventilation was also significantly lower for patients who did not develop PE compared with patients who developed PE (10,8 v/s 2 respectively;$p < 0{,}00001$). A significantly higher proportion of patients who developed PE, compared with those who did not developed PE, showed Subarachnoid Hemorrhage (61,5 % v/s 23,9 %; $p < 0{,}004$) and cerebral edema (30,7 % v/s 9% $p < 0{,}018$).
Conclusion: We conclude that Glasgow at rescue, mean of days at ICU, mean of days at mechanical ventilation, cerebral edema and subarachnoid hemorrhage are factors related to Posttraumatic Epilepsy.

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430
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Epilepsy
Memory disturbances among adult sudanese epileptic patients in neurologic and psychiatric outpatient clinics in Khartoum State from June-September 2014

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Objectives: The aim of this study is to identify the factor(s) associated with memory disturbances among adult Sudanese epileptic patients.
Methodology: A case series study of 47 consecutive epileptic patients was done in different neurologic and psychiatric outpatient clinics in Khartoum State. Patients in the post ictal phase and with memory disturbances from different etiologies were excluded. Patients were interviewed by three psychiatrists and trained doctors using the memory component of the mental state examination to objectively assess memory disturbances. The subjective component of memory was assessed by a validated questionnaire (The Questionnaire of Memory Efficacy). Anxiety and depression were assessed by the validated Hospital Anxiety and Depression Scale (HADS). Patients consent was obtained as necessary.
Results: Short and long term memory disturbances were objectively detected in 68.1% and 31.9% of patients respectively. There was no significant association in the mean long term memory score among patients with idiopathic generalized epilepsy and temporal lobe epilepsy ($P = 0.72$). However, there was a significant difference in the mean short term memory score among patients with temporal lobe epilepsy compared to idiopathic generalized epilepsy ($p = 0.02$). There was no significant association between the mean memory score and the duration of epilepsy, use of sodium valproate, carbamazepine and polytherapy ($P = 0.34, 0.07, 0.43, 0.93$) respectively. There was a correlation between memory disturbances and both anxiety and depression ($R = 0.72$, $R^2 = 0.51$, $P = 0.00$) and ($R = 0.35$, $R^2 = 0.12$, $P = 0.025$)
Conclusion: Epilepsy causes significant memory disturbances that may be attributable to the disease itself and associated anxiety and depression.

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431
WFN15-0036
Epilepsy
The link between ramadan-related activities and seizure frequency during ramadan in epileptic patients attending banat charity clinic in July-August 2014

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Objectives: To assess the effect of fasting and other Ramadan-related activities on the seizure frequency of epileptic patients.
Methodology: A series of 80 epileptic patients was conducted from patients attending Daoud charity clinic in Banat, Khartoum-Sudan. Data related to the fasting status, seizure frequency before and during Ramadan, and the adherence to "late night prayers" were documented using preformed pro-formats. Patient's approval was obtained as necessary.
Results: 44.7% of patients fasted the whole Ramadan, whereas 51.5% of these chose to fast without or against the physician consultation. The remainder either stopped or never tried to fast. The change in seizure frequency is not affected by the fasting status ($P = .625$). Moreover, there is higher incidence of seizure during Ramadan in the non-fasting population. There is no correlation between the duration of sleep and the change in seizure frequency, but increasing the duration of sleep by 2 hours decreases the frequency of seizures, but the difference is not significant ($R = 0.11$, $P = 0.56$). There is no relationship between the change in the sleep duration at night and the seizure frequency ($P = 0.22$). In fact, patients who slept lesser than 2 hours have lesser seizure frequency (seizure frequency is 40% lesser in Ramadan). The change in seizure frequency is not related to neither the adherence to early nor late night prayers ($P = 0.76, 0.27$).
Conclusion: The epileptic patients can fast and practice the Ramadan related ceremonies, and this will not affect their seizure frequency. However, further studies are recommended before applying these results.

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432
WFN15-0144
Epilepsy
Knowledge, attitude & practice towards epilepsy among sudanese doctors, Khartoum State, 2014

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Objective: to evaluate the knowledge, attitudes and practices towards epilepsy among Sudanese doctors in Khartoum state, 2014.
Methodology: cross sectional hospital based study targeting doctors (69 house officer, 11 medical officer, 15 registrars of medicine, and 12registrars of pediatrics) in Khartoum state completed through self-administration of a questionnaire containing items addressing demographics, epilepsy knowledge, attitudes toward PWE and toward using a validated phone application to help diagnose epilepsy and practices toward epilepsy. The response rate was57.4 %. Analyses were conducted using the SPSS program v20.
Results: 19.7% of doctors considered epilepsy a contagious disease, 10.3 % think that epilepsy is caused by possession by Jinn (devil), 22.2% think that epilepsy cannot be treated, 26.4% considered themselves as not familiar with the variety of AED, their specific use and their side effects, 98.1% will allow their child to play with an epileptic child and 67.7% will allow their son/daughter to marry a PWE. 82.1% think that PWE can have a normal quality of life, 24.3% think that PWE cannot make close friends with the other people. 11.5% were not willing to be seen with someone during his/her epileptic attack. 61% will be prepared personally to use a validated phone application to help diagnose epilepsy. In the treatment of partial epilepsy55.2% use Sodium Valproate. In treatment of generalized epilepsy 64.4% use Sodium Valproate.
Conclusion: Higher education does not mean the complete absence of false beliefs. Sodium Valproate is the most common used drug in treating both partial and generalized epilepsy in the study.

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433
WFN15-0073
Epilepsy
Clinical assessment of topiramate administration in neurosurgical patients

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Background: Topiramate shows excellent reduction in seizure rate and minimal adverse events. However, there is a significant difference about the optimal dose, duration of topiramate management. Thus, we conduct the multi-center retrospective survey to examine the practical using patterns of topiramate in the neurosurgical patients.
Objective: This study is to investigate the actual using patterns and clinical effects of topiramate in patients with neurosurgical disease as antiepileptic drugs (AEDs) in 94 korean multi-centers.
Patients and methods: A total of 7,152 patients who had taken topiramate for at least 3 months between August 2008 and February 2009 were eligible to participate in this study. We evaluated demographic data, primary diseases, duration of topiramate administration, initial and subsequent dosage adjustment, concomitant AEDs, the frequency of seizure reduction, and adverse events.
Results: Topiramate was most commonly prescribed in stroke (38%), and the mean initial dosage was 65 mg/day, and the mean maintenance dosage was 105 mg/day. The mean duration of the initial dosage for topiramate administration was 24 days, and the mean duration of the maintenance dosage was 125 days, respectively. Among groups with prophylactic administration, 98% did not develop convulsion and among groups with therapeutic administration, 2% was ineffective to control seizure. After taking topiramate, 2% patients showed adverse events, that sensory aberration was the most common.
Conclusion: These results suggest that topiramate prescribe widely in diverse neurosurgical disorders, and effective in reduction of seizure frequency, and does not cause serious adverse effects comparable with old AEDs.

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434
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Epilepsy
Clinical characteristics of patients with new-onset transient loss of consciousness

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Purpose: To demonstrate demographics of patients with new onset transient loss of consciousness (TLOC) and clinical characteristics useful in distinguishing causes of TLOC.
Methods: We retrospectively enrolled 158 patients aged ≥ 18 years who visited the emergency rooms of 5 tertiary referral hospitals because of new onset TLOC. Clinical characteristics including symptoms, concurrent medical conditions, comorbidities, and laboratory findings were investigated. Calgary Syncope Seizure Score (CSSS) was measured according to medical records.
Results: Among 158 patients, 80 (50.6) were diagnosed as syncope and 62 (39.2%) as epileptic seizures. Tongue biting, head turning, unresponsiveness, unusual posturing and jerking limbs during the TLOC, emotional stress before the TLOC, and no memory of a spell and confusion after the TLOC were associated with epileptic seizures. Lightheadedness, sweating, micturition, and prolonged standing or sitting before the TLOC were associated with syncope. Past history of cerebrovascular disease, concurrent metabolic derangement, sleep deprivation and withdrawal from alcohol were associated with epileptic seizures. EEG abnormalities were associated with the diagnosis of epileptic seizures while MRI abnormalities were not. Discrimination between epileptic seizures and syncope by CSSS was concordant with the diagnoses at ER in 120 (84.5%) patients [70/80 (87.5%) of patients diagnosed as syncope and 50/62 (80.6%) diagnosed as epileptic seizure]. 101 (63.9%) were subsequently followed up and final diagnosis were altered from initial diagnosis at emergency room in 8 of 101 patients (7.9%).
Conclusions: Epileptic seizures comprise 39.2% of new onset TLOC. Symptomatology including CSSS and EEG can be helpful in distinguishing epileptic seizures from syncope in patients with new onset TLOC.

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435
WFN15-0402
Epilepsy
Quantative eeg characteristics of periodic lateralized epileptiform discharges according to benzodiazepine responsiveness

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The major controversy about periodic lateralized epileptiform discharges(PLEDs) is whether they are ictal or interictal. Practically, whether patients with PLEDs need antiepileptic treatment or not is major question. Diagnosis of NCSE is often guided by clinical and EEG response to benzodiazepine.

The aim of this study is to evaluate quantitative differences of EEG activity with PLEDs according to their response to acute benzodiazepine trial.

Patients with 1) altered consciousness and 2) EEG taken within 12 hours of onset showing PLEDs and 3) benzodiazepine trial was performed during the EEG recording were enrolled. Morphology of PLEDs including amplitude, frequency, and variability of the frequency was analyzed. Quantitative analysis include spectral power analysis, spectral coherence analysis, and graph theory analysis was done. Results of the analyses were compared between patients whose PLEDs were abolished by benzodiazepine (BDZ-R group) and those whose PLEDs persisted (BDZ-NR group).

19 patients were enrolled. Morphologic variables were not different between groups. In BDZ-R group, alpha-1 activity was increased in both frontopolar areas. Beta activity was also increased in both frontal areas while delta activity was decreased. In BDZ-R group, alpha-1 and beta activities were more coherent between bilateral hemispheres in frontal, anterior temporal, and central areas. Coherence line topographic map also revealed more bilaterally symmetric pattern in BDZ-R group.

Greater higher frequency activity (alpha-1 and beta) and lesser lower frequency activity (delta) in frontal areas were associated with benzodiazepine response of PLEDs. More coherent activity in higher frequency band between hemispheres were also associated with benzodiazepine responsiveness.

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436
WFN15-1416
Epilepsy
The effects of acetyl L-carnitine treatment on cognitive and memory function in epileptic patients under antiepileptic medication

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Purpose: To assess the clinical effect of acetyl-L-carnitine (ALC) on cognitive and memory function in epileptic patients treated with antiepileptic drugs (AED).
Methods: We performed a randomized, double-blind, placebo-controlled study administering ALC in forty-two patients with chronic epilepsy who were treated at our institution between 2011 and 2014. Patients were randomly divided into two groups, and using double-blind administration, group A was treated with ALC and group B with placebo for 90 days.
Results: There were 19 (45.2%) patients belonging to ALC group (group A) and the other 23 (54.8%) patients with placebo group (group B). The two groups were similar in demographic characteristics, baseline neuropsychological assessments and laboratory findings. After 90 days in group A, we observed a significant increase in memory quotient (MQ) ($P < 0.05$), and word fluency test (category) ($P < 0.05$). In addition, we could observe a tendency suggesting increase of the Inteligence Quotient (IQ) ($p = 0.072$) and decrease of Beck Depression Inventory (BDI) ($p = 0.078$) after ALC treatment. However, there were no significant changes in serum ammonia level, Mini Mental State Examination, Trail Making Test (TMT-A & TMT-B), Symbol Digit Modalities Test, pegboard test (L & R hand) and Auditory Verbal Learning Test (AVL) after ALC treatment.
Conclusions: In previous studies, ALC has shown encouraging results in the treatment of degenerative brain disease when cognitive functions are involved. From our results, ALC may have a crucial role in improvements of neuropsychological activities related to memory and frontal lobe function in patients with chronic, focal epilepsy.

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437
WFN15-1077
Epilepsy
The effect of clinical characteristic features on prognosis in epilepsy patients

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Purpose: In this study we aimed to clarify the prognostic factors in Turkish epilepsy patients.
Material and method: We retrospectively analized 1329 epilepsy patients who were followed at Epilepsy outpatient clinics between 2002-2013.For each patient we investigated demographic characteristics, age of the first seizures, etiology, mental retardation, duration of disease, psychiatric disease history, systemic disease history, related parents,family history of epilepsy, presence of electroencephalography abnormalities, presence of neuro–radiological abnormalities, seizure types, seizure frequency per month for each follow up year, antiepileptic drug use and numbers.We determined interactions between clinical characteristics and total seizure frequency, partial seizure frequency, generalized seizure frequency.We analized the interaction between one year seizure remission rates and clinical characteristics. We also investigated the interaction between clinical characteristics and time indicating that as time changes the effects of variables on frequency of seizures also changes.
Results: We found that younger age at the first seizure ($p = 0.0465$) and long disease duration ($p = 0.0406$) have a negative effect on seizure control. We found that family history ($p = 0.0438$) and psychotic disorder history ($p = 0.0416$) increase the generalized seizure frequency as depression end anxiety disorder history have no negative effect on it. As the number of antiepileptic drugs increases the partial seizure frequency increases ($p < 0.0001$).
Conclusion: Younger age at the first seizure, long disease duration, history of trauma, family or psychotic disorder are associated with poor prognosis. The prognostic values of etiologic factors, mental retardation and presence of depressive disorders can change over time.

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438
WFN15-1188
Epilepsy
Lateralization of ictal tachycardia in patients with symptomatic epilepsy

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Background: Ictal tachycardia is a common cardiac change associated with epilepsy. Although some studies in refractory temporal lobe epilepsy indicated that ictal tachycardia frequently occurs in right-sided origin, there is no study evaluating this phenomenon in patients with symptomatic epilepsy.
Objective: The aim of this study was to investigate if the heart rate change in patients with symptomatic epilepsy associates with the laterality of the lesion.
Materials and method: We retrospectively assessed all patients with generalized seizure in the emergency department of our hospital between 2010 and 2014. We identified the patients with late-onset post-stroke epilepsy or brain tumor related epilepsy and divided them into right-sided and left-sided lesion group, followed by analyzing the correlation between the laterality and heart rate. The heart rate was monitored at site by paramedics and at our emergency department when the patients arrived.
Results: Among the 1080 patients, 157 (14.5%) were late-onset post-stroke epilepsy or brain tumor related epilepsy. The number of left-sided lesion group was 95 (60.5%) and right-sided was 62 (39.5%). Compared to right-sided group, the patients with left-sided lesion tended to show tachycardia both at site (96.5 ± 24.1 vs. 105.3 ± 21.7 /min; $p = 0.02$) and on arrival at the emergency department (94.6 ± 20.7 vs. 104.0 ± 28.5 /min; $p = 0.02$).
Conclusion: These results indicate that the origin of ictal tachycardia in symptomatic epilepsy exists in left hemisphere, contrary to the previous studies in temporal lobe epilepsy.

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439
WFN15-1484
Epilepsy
Dandelion: a continuous medical education program on epilepsy in Brazil

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Background: In line with current WHO recommendations for Epilepsy strategy(1) where partners from within the health sector and beyond are encouraged to collaborate to improve epilepsy care, LBE and UCB have joined forces in Brazil to set up the "Dandelion" program to support epilepsy education of non-specialists by specialists and building of a learning community.

Objective: Dandelion is a novel approach to medical education: virtual monthly educational sessions in small groups build on foundations established during "live", larger-scale workshops, delivering up to date epilepsy care knowledge, focusing on improving diagnosis, treatment, disease and patient management.
Materials and methods: Two-day workshops were held in São Paulo, Recife and Porto Alegre. Mentors were identified for the case-based eMedical virtual follow up program, involving discussions between mentor and group of maximum 10 physicians. Discussion themes were informed by participant survey needs and requests.
Results: 135 neurologists and 38 residents attended workshops across 3 host cities. All participants participated in the eMedical program, led by 20 mentors and supported by UCB Medical team. Surveys confirmed medical topics of greatest interest to be covered during the eMedical mentorship: drug interactions, rational polytherapy and cognition in epilepsy. High rate of willingness to continue (>95%) with program was observed.
Conclusion: Dandelion touched nearly 30.000 patients lives through the innovative effective educational support of approximately 200 neurologists. There is potential for further expansion of this program in Brazil, and to grow the "Dandelion Community".

UCB-sponsored

(1) Accessed on 5 May 2015 at http://apps.who.int/gb/ebwha/pdf_files/EB136/B136_R8-en.pdf

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440
WFN15-0779
Epilepsy
Analysis of the implementation process for anti-epileptic treatment in Ecuador

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Background: The World Health Organization estimates that 50 million people worldwide have epilepsy and nearly 80% of them are found in developing countries. Although epilepsy responds to treatment in 70-80% of individuals, a major problem is the lack of access to appropriate treatment. Furthermore, we know that the treatment of epilepsy is limited by several factors: the difficulty of tracking the different stages of treatment, lack of qualified staff, the tools for securing the diagnosis, non-compliance with the therapeutic dosing because of beliefs, and the high cost of antiepileptic drugs (AEDs).
Objective: The main objective of this study was to determine the most important actions necessary to improve the accessibility of anti-epileptic drugs (AEDs) in rural and urban areas in Ecuador.
Patients and methods: An observational epidemiological study is underway in Quito and the province of Napo in Ecuador from January 2015, to September 2016. Different surveys will assess all the AED circuits including the Ministry of Health and national services, components of the medical circuit (wholesalers, drug manufacturers and retailers) prescribers and healthcare facilities and the people with epilepsy. We are going to use three sources of information (medical records, key informants and door-to-door surveys) to find patients with epilepsy in these study areas.
Expected results: The goal is to identify the barriers and facilitators to access of care and especially of AEDs, one of the first steps needed to improve health access for patients with epilepsy in Ecuador.

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441
WFN15-1225
Epilepsy
Quality of life in epileptic patients after surgical procedure

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Background: Epilepsy is not a single condition, but a group of diseases that present with epileptic seizures. As a chronic disease, it affects several aspects of a patient's life by reducing the quality of life (QOL). Surgery is widely accepted as a treatment modality, which aims relief of physical and psychosocial problems that compromise QOL.
Objective: Anaylize QOL in patients after epilepsy surgery.
Material and Methods: A search was performed in Pubmed using "life quality" AND "epilepsy surgery". Only free full texts published in the last 5 years were considered. There were 11 results, of which only 4 approached the subject of interest. Two articles from 2009 were considered too.
Results: An improved QOL was associated with: emotional, psychosocial and cognitive well being; less concern with seizures; reduced side effects that were previously caused by anticonvulsants. When it comes to children and adolescents, another important factor that highly influences QOL is the good relationship with parents. Besides these, occupational performance is also connected to improvement in QOL. All these findings are mainly related to temporal epilepsy. As for the extratemporal forms, there is evidence of improvement in the QOL up to two years after surgery. QOL then remains relatively stable, tending to decrease as time passes specially due to cognitive function.
Conclusion: Epilepsy surgery plays an important role in enhancement of QOL when it is appropriately indicated. It involves not only the seizures, but also a wide biopsychosocial aspect.

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442
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Epilepsy
Electroencephalographic epileptiform abnormalities and epilepsy in autism spectrum disorder

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Introduction: A number of studies have addressed the question of the relationship between Electroencephalographic epileptiform abnormalities and/or epilepsy in Autism spectrum disorder (ASD), but with mixed results. The enormous heterogeneity of the clinical and behavioral symptoms has made it rather difficult to delineate the neural circuitry affiliated with this condition.
Subject and methods: We examine a large sample of 104 patients with ASD. The awake and sleep EEG database of the International Center for Neurological Restoration was searched for recordings during 2003-2014 in children with ASD under 16 years of age. EEG reports and recordings were reviewed and interictal epileptiform

abnormalities (IEAs) were characterized. The relationship between IEAs, ASD subtypes and clinical diagnosis of epilepsy was established.
Results: ASD children had mean age of 5.7 ± 2.86 years, 73,1 % being male children. More than 90 EEGs in children with ASD were evaluated, spontaneous sleep EEG was recorded in 56,5 %. The distribution of diagnostic ASD subtypes showed that primary autism was the most frequent (50,9 %). The frequency of IEAs was 66,3%, and there was a relationship with the diagnostic ASD subtypes (Fisher exact test $p = 0,03$). The frequency of epilepsy was 14.8%. 57.1% of children had IEA without epilepsy. The focalization of epileptiform abnormalities in electroencephalography (EEG) was not significantly associated with epilepsy (Fisher exact test $p = 0.58$).
Conclusions: EEG epileptiform abnormalities were documented in children with ASD with and without seizures. The IEAs was related to the diagnostic ASD subtypes.

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443
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Epilepsy
Long-term epilepsy and psychosocial outcome of children with infantile spasms in a population-based cohort of children with epilepsy

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Background: Infantile spasms are associated with severe early onset epileptic encephalopathy with poor prognosis. Few population-based studies exist documenting seizure and psychosocial outcomes.
Objective: Retrospectively analyze the outcome of children with infantile spasms in a population-based cohort.
Patients and methods: Records of children age 0-17 years diagnosed with new-onset epilepsy while resident in Olmsted County, Minnesota between 1980-2010 were reviewed to identify all patients diagnosed with infantile spasms. The records of these children were retrospectively reviewed to determine underlying etiology, cognition, emergence of other seizure types, seizure control, and mortality. An Institutional Review Board (IRB) has waived the requirement for their formal approval of the study.
Results: 24 patients were identified (5% of all children with epilepsy). Median age of spasm onset was 8 months; median duration of follow-up was 10.3 years. Etiology (genetic or structural) was identified in 21(88%). Severe cognitive impairment was present in 61% at epilepsy onset. Half the children had other seizure types prior to spasm onset and 92% experienced additional seizure types at some time. Although 22 (92%) had intractable seizures at some time, 10 (42%) experienced at least one year of seizure freedom. At final follow-up, 17 (71%) had intractable epilepsy, 22 (92%) had cognitive impairment- 17 (71%) severe, four (17%) died.
Conclusion: Infantile spasms are a rare but severe form of epilepsy often due to genetic or structural etiology. The spasms may spontaneously resolve, but other seizure types persist and are often intractable. The seizure and psychosocial outcomes are poor.

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444
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Epilepsy
Women with epilepsy: fertility rate, reproductive endocrine complications

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Reproductive health gained great social value in connection with aggravated problem of quality and quantitative reproduction in population.
Objective: to study fertility rate (FR), reproductive endocrine complications (REC) frequency in women with epilepsy
Methods: 155 women at the age of 16 – 45 were included in the prospective observation research of REC due to antiepileptic drugs (AEDs) into 3 groups: 1gr. - AEDs monotherapy, 2 gr. - polytherapy, 3 gr. - without AEDs. FR and REC frequency were studied in groups. Definition of interrelation "AEDs - REC" was carried out by means of Naranjo algorithm. STATISTICA for Windows system was used.
Results: Average age of the surveyed women made 25 years with prevalence patients in optimal reproductive age 62%. 1gr. - 70 (45%), 2gr. - 65 (42%), 3 gr. - 20 patients (13%). Statistically reliable differences in clinic weren't taped in groups. 47% women were marriage. 31% patients had children without differences in groups. Minority children were born before mother's disease. FR was 0, 3. FR for simple replacements of generations should be 2, 15. Optimal FR - 4, 0. REC had 53% patients, 40% - due to AEDs. Comorbid REC was noted in 13% without differences in groups. Application of AED polytherapy enlarged REC frequency ($p < 0,001$).
Conclusion: Fertility rate among women with epilepsy was lower optimal due to medical and social reasons. Reproductive disturbances were frequent side effect of antiepileptic drugs above at polytherapy. It's necessary to monitor reproductive health in women with epilepsy during antiepileptic drugs treatment.

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445
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Epilepsy
Catamenial epilepsy as a predictor of drug resistance

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The twentieth century was marked by progressive changes in epilepsy treatment. However it is important to identify factors contributing to drug resistance
Purpose: To study catamenial epilepsy (CE) contribution to drug resistance.
Method: The work was a part of prospective observation research on antiepileptic drugs (AEDs) side effects on reproductive health in 155 women at the age of 16 – 45. 3 groups were allocated: 1gr. - AEDs monotherapy, 2gr. - polytherapy, 3gr. - without AEDs. CE was characterized by seizure exacerbation aligning with menstrual cycle (MC). "Late CE", residual catamenial seizures, catamenial pattern in groups were studied. STATISTICA for Windows system was used for data analysis.
Results: There were 70 patients in 1stgr. (45%), 65 patients in 2ndgr. (42%) and 20 – in 3gr. (13%). Average age of surveyed women was 25y.o. Statistically reliable differences in qualitative characteristics of groups weren't revealed.

Catamenial epilepsy general indicator in cohort was 32%. Indicator of catamenial epilepsy in 2nd group (43%) was significantly different from 1st gr. (24%) and 3 gr. (25%) with $p < 0,001$. It was noticed that seizures related to MC were drug resistant in cohort and women with CE. Phenomenon of "late catamenial epilepsy" was noted. Residual seizures related to MC remained in both cohort and women with CE.
Conclusion: The following three features determined catamenial epilepsy as a predictor of drug resistance: dominance of catamenial epilepsy in polytherapy group (with prevalence of patients with resistant forms of

disease) in comparison with other groups, "late catamenial epilepsy" and residual catamenial seizures.

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446
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Epilepsy
Refractory epilepsy and other neurological manifestations of Schinzel-Gieidion syndrome

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Introduction: The Schinzel-Giedion syndrome (SGS) is characterized by a mutation in the gene SETBP1. As a rare desease, autosomal dominant, manifested by seizures, spasticity, mental retardation, deafness, blindness, associated with dysmorphic features, coarse facies, low-set ears, hypertelorism, hypertrichosis, bone and cardiac malformations and hydronephrosis.
Objective: Report the occurrence of refractory epilepsy and other neurological manifestations in a case of SGS.
Clinical case: R.C.A.L ten months-old diagnosed with SGS. It was observed from pre-natal, morphological US noting single umbilical artery, polydactyly at hand and ureteral dilatation. At birth he had hypospadias, low-set ears, coarse facies, palatal groove, hyperreflexia, polydactyly, and inefficient suction, suspecting of a genetic syndrome, however, karyotype was normal. He remained in the ICU for 34 days. In the third month started tonic-clonic seizures episodes, progressing to severe refractory seizures with muscle spasms. The tests revealed, linear calcifications to the straight sinus level and confluence of the venous sinuses CT scan, standard eletrographic crisis eletrodecremental the EEG and genetic studies showed changes c.2605 > T (p.Ser869Cys) in heterozygous in exon 4 gene SETBP1 at the molecular test, that associated with clinical, confirmed SGS diagnosis with five months-old. With nine months-old he underwent gastrostomy with fundoplication, for a swallowing disorder.
Discussion/Conclusion: The foregoing case features classic neurological manifestations of SGS, the most striking spasticity and intractable epilepsy, by interfering directly in health and quality of life of the patient. Currently R.C.A.L takes topiramate (75 mg / day) and cannabidiol (2 mL / day), with significant improvement in refractory epileptic seizures.

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447
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Epilepsy
Public knowledge and attitudes towards epilepsy in Ismailia Governorat - Egypt

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Objective: To find out the knowledge and attitudes toward epilepsy among a sample of people living in Ismailia Governorate, Egypt.
Methods: A survey was conducted by using a face-to-face interview, 840 respondents were included, 420 from an urban area (El-Sheikh Zayed District) and 420 from a rural area (Abu-Sultan Village). The survey instrument was a 26-item questionnaire in Arabic translated form, designed to evaluate knowledge and attitudes to epilepsy.
Results: Of the 840 respondents, (91.2%) had heard of or read about epilepsy, (24.8%) knew someone with epilepsy and (30.7%) had witnessed a seizure. According to the respondents, the main causes of epilepsy were; psychological disease (63.7%), Evil Spirits (Jinn) (49.5%) and a form of insanity (47.4%). Approximately, 70% agreed that the intelligence of epileptic patient is below average and 75% believed that epilepsy cannot be cured. More than 50% of the respondents believed that an epileptic patient could not get married (57.5%) or having a child (58.7%). About (80%) of the respondents refused to marry (77.7%) or to marry their child to an epileptic person (83%). Fifty nine percent (59%) would not offer a job to epileptic person and (41%) refused working with an epileptic. The negative attitudes were more frequent among the rural than the urban subjects.
Conclusions: Public perception of epilepsy in our community is lacking and needs attention. Continuing effective educational interventions are needed to improve understanding of the disease and to ameliorate the social discrimination and misconceptions against it.

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448
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Epilepsy
Social skills among epileptic adolescents

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Background: Epilepsy has been increasingly recognized as a risk factor for negative outcomes in many aspects of the epileptic adolescents. These aspects include psychological, academic and social co-morbidities in the form of poor social skills.
Objective: To assess the social skills of epileptic adolescents and to compare them with non-epileptic healthy adolescents.
Methods: The social skills of 86 epileptic adolescents (12-18 years) were compared with those of 86 age-and-gender matched healthy adolescents. The social skills were assessed by the Arabic translated form of the Social Skills Rating System (SSRS) questionnaire; student form (39 questions) and parent form (52 questions).
Results: The means of the scores of "student form" sub-scales (cooperation, assertion, empathy and self-control) and the means of the scores of "parent form" sub-scales (cooperation, assertion, responsibility, self-control, externalizing behavior and internalizing behavior) were highly significantly lower in epileptic than in non-epileptic adolescents ($P < 0.01$). The means of the scores of all student form sub-scales were highly significantly lower in epileptic adolescents with Partial Seizures with secondary generalization, with Generalized Tonic Clonic Seizures and on poly-therapy medications ($P < 0.01$). The means of the scores of cooperation, assertion and empathy of student form sub-scales were highly significantly lower in epileptic adolescents with seizure frequency >4 per year. No significant difference in the means of the scores of student form sub-scales were detected related to sex or the residence of the epileptic adolescents.
Conclusions: Epileptic adolescents have poor social skills that require early assessment and intervention.

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449
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Epilepsy
Super-refractory status epilepticus due to anti-GAD-65 autoimmune encephalitis – biphasic presentations with discognitive crisis with generalization and posterior focal myoclonus

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Introduction: Status epilepticus (SE) is a neurologic emergency and many causes should be investigated, such as autoimmune encephalitis. A patient will be described, with high levels of antibodies against 65kDa glutamic acid decarboxylase (GAD), an intracellular enzyme, which developed into super-refractory status.
Objective: To emphasize the importance of immunologic mechanisms on the SE.
Patient and methods: A 19-year old healthy female suddenly presented behaviour changes and recurrent generalized tonic-clonic crisis. The cerebrospinal fluid investigation was normal, brain MRI showed non-specific image in the white matter right hemisphere. The anti-GAD antibodies, obtained in serum, were with high levels (1960nmol/l). Continuous electroencephalogram (EEG) revealed moderate disorganization, epileptiform paroxysms in the right anterior frontotemporal region and rhythmic delta activity with varied frequencies and amplitudes suggestive of ictal discharges. Different types anticonvulsants drugs were used to control status without success. She recovered 2 months later after methylprednisolone and immunoglobulin. The patient initiated with focal myoclonus in the right upper limb after five months from hospital discharge.

We have obtained patient and/or Institutional Review Board (IRB) approval, as necessary.

Results: Most described cases of anti-GAD autoimmune encephalitis are presented as limbic encephalitis. Our case report shows a super-refratary status epilepticus and with partial relief of immunotherapy.
Conclusion: The use of immunotherapy is essential in this case. Current studies are few to determine the best therapeutic approach.

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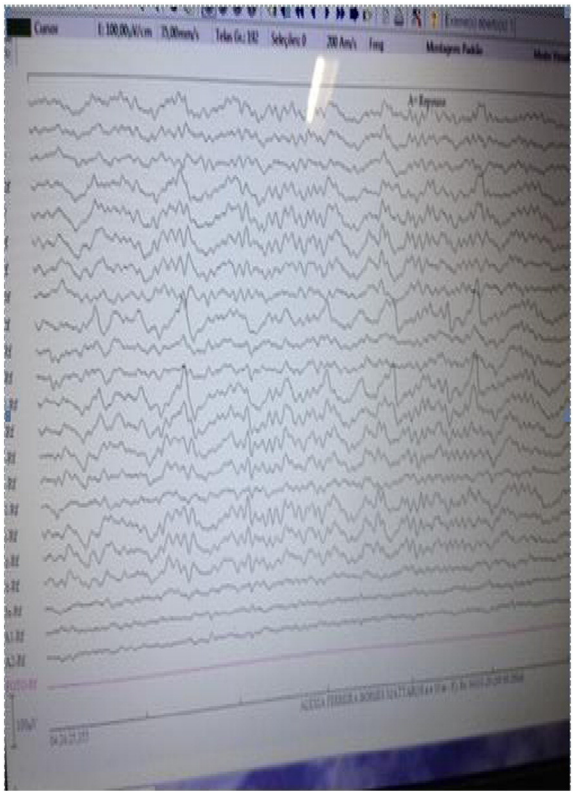

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450
WFN15-0154
Epilepsy
Temporal lobe epilepsy: a bridge between neurology and psychiatry

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Background: Temporal lobe structures are nonexistent in lower mammals and barely sketched in higher primates. Area cerebral nobles and higher in homo sapiens.

Objectives: Show that the pathology comprising temporal lobe neurological and psychiatric symptoms at once, being of importance interictal psychotic behavioral manifestations and symptoms thereof.
Patients and methods: Monitoring of clinical cases for 45 years. Patients with paroxysmal discharges verification of epileptogenic EEG in temporal areas (epilepsies with targeting and / or generalization component of the temporal lobe).
Results: Interictal symptoms found in patients with temporal lobe epilepsy and a questionnaire-scale clinical research is made are described. Besides the psychopathological manifestations that characterize temporal lobe psychosis are described.
Conclusion: The pathology of temporal lobe epilepsy, is a bridge between neurology and psychiatry requiring integrated inter-cooperation from other clinical specialties.

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451
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Epilepsy
Polymorphisms in ABCB1 and ABCC2 genes in patients with drug-resistant epilepsy at Van Buren Hospital in Valparaíso, Chile

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Epilepsy is a disorder affecting 1-2% of population worldwide. Despite treatment, about 25% of patients develop Drug-Resistant Epilepsy (DRE). Polymorphisms of Multidrug pumps in the Blood Brain Barrier (ABC Family) have been related to DRE, in particular on *ABCB1* and *ABCC2* genes.

The aim of this study is to search for association between *ABCB1* and *ABCC2* polymorphisms and DRE in Chilean patients.

This is a non-experimental correlational transversal study, approved by the Scientific and Ethics committee of Van Buren Hospital, Valparaiso, Chile. Patients ($n = 140$) diagnosed with Epilepsy according to ILAE who attend the Neurology Clinic were prospectively recruited. We classified patients in two groups; those who qualified within DRE diagnosis (two or more trials of adequately chosen and tolerated drugs without seizure freedom within one year) and drug responsive patients. All patients were interviewed to recollect clinical and epidemiological data. Genomic DNA was extracted by standard lysis buffer procedure from saliva samples. Determination of *ABCB1* C3435T and *ABCC2* c.-24C > T polymorphisms was performed by PCR-RFLP as previously reported (1, 2).

We successfully replicated the SNP calling methodology described. Patient recruitment is still ongoing. Allelic distribution of *ABCB1* and *ABCC2* polymorphisms do not significantly vary from those reported in literature and UCSC Genome browser. Determination of SNP frequency is currently underway.

To date, our data indicate that *ABCB1* C3435T and *ABCC2* c.-24C > T have similar allelic distribution in Chilean Epilepsy patients to those reported in literature. We are currently determining putative differences in allele frequencies in Drug-Resistant vs Responders Epilepsy patients.

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452
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Epilepsy
Epilepsy in adults

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Epilepsy in adults
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Introduction: Epilepsy prevalence is biphasic in nature. Second peak starts after 5th decade. Neurodegenerative disease and Strokes are the major causes for epilepsy in adults. This is an observational study to review the seizure prevalence in adults who suffered from stroke.
Objectives: To study the background characteristics, pharmacotherapy of patients admitted to hospital with stroke who developed seizure subsequent to stroke.
Methods: We conducted a prospective observational study at St. John's Hospital & Manipal Hospital, Bangalore (2008 to 2014) on patient with stroke and post stroke seizures.
Results: Out of 301 cases of stroke, 229 had ischemic, 48 had hemorrhagic stroke and 24 had a Transient Ischemic Attack. A total of 16.59 % (38 of 229) deaths occurred in ischemic stroke patients, 21.3% (10 of 48) deaths in hemorrhagic patients and 1 death in a TIA patient. Amongst stroke patients 20 (6.5 %) had early seizures, 8 (2.6 %) have developed late onset seizures and five (1.5%) fresh onset of seizures after 2 years of stroke episode. Seizure type observed: Partial: 9 patients, Generalized: 09 patients, and Complex 15 patients which includes behavioural, confusion & absence. Male and female patient with seizures were 22 & 11 respectively. Seizures were treated with Topamac: 13 patients, Levetiracetam: 22 patients, Eptoin: 07 patients.
Conclusion: - Epilepsy was seen in 11 % of stroke patients.

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Epilepsy
Evaluation of counselling received by women with epilepsy in their reproductive years, types of antiepileptic drugs used and pregnancy outcomes

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Background: Up to 50% of women with epilepsy (WWE) have unplanned pregnancies. Preconception counselling throughout a woman's reproductive years should be available to all WWE in order to reduce adverse pregnancy outcomes associated with epilepsy.
Objectives: To evaluate whether WWE of reproductive age received appropriate counselling and management before pregnancy, including issues such as folate supplementation, antiepileptic drug (AED) selection, discussion of teratogenic risks, and other potential complications associated with epilepsy and pregnancy.
Methods: We reviewed 64 consecutive medical charts of WWE aged 13 to 50 years old, who were followed prior to conception and during pregnancy at the University of Sherbrooke Hospital Center, Canada between July 1, 2003 and June 30, 2013. Forty-two patients were included, encompassing 62 pregnancies. The Institutional Review Board approved the protocol. We described our population regarding preconception counselling, folate supplementation, AEDs, seizure control before and during pregnancy, complications and malformations.
Results: Counselling before conception was documented in 45/62 (73%) pregnancies. Folate supplementation before conception was prescribed in 44/62 (71%) pregnancies. Potential risks were documented in 27/62 (43%) of charts. There were no statistically significant differences between those receiving counselling and those who did not, in terms of seizure frequency during pregnancy, and valproic acid use. Of the 15 women on a polytherapy, all received counselling compared to those only taking 1 AED ($p = 0.006$).
Conclusion: The rate of counselling at our center was satisfactory, but can be improved. WWE require additional preconception planning during their reproductive years to reduce potential adverse pregnancy outcomes.

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454
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Epilepsy
In-hospital seizures in Dipreca Hospital: one year surveillance

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Background: Many symptomatic as well as non-provoked seizures occur in hospital settings, contributing to poor outcome and added morbidity. The purpose of this study is to outline our current experience in identifying and treating in-hospital seizures.
Objective: Describing clinical and demographic characteristis of patients, as well as seizure characteristics, initial management, outcome and post-seizure findings in post crisis EEGs.
Material and methods: Prospective descriptive study using a protocolled registry of in-hospital seizures (March 2014-March 2015).
Results: We identified 43 patients with in-hospital seizures. The most common type was GTCs. Twelve patients were considered to have status epilepticus, as their seizures lasted over 5 minutes. Of these patients four lasted over 30 minutes in spite of 3rd line treatment. 67,5% of patients presented on admission with a known structural CNS lesion. Other pro-convlusing factors seen in our patients included glycemic and hydroelectrolitic imbalance, use of medication that lowers seizure threshold. Hypoalbuminemia was seen in 64,3% of patients. EEG was useful identifying post-seizure alterations.

Our protocol was activated in 84,4% of patients, however modifications to this protocol were seen in 24% of patients.
Conclusions: Most patients that presented with in-hospital seizures had no history of epilepsy (75,6%). This correlates with other series, and in most of our patients more than one predisposing factor was seen. 35,9% of in-hospital seizures were seen by nurses which enforces the need to work as a team and educate all medical crew. 82,4% of seizures were identified during daytime working hours.

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455
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Epilepsy
Epilepsy: quality of life and psychiatric comorbidities

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Introduction: Epilepsy is a neurological disorder caused by abnormalities in brain electrical activity, predisposing to recurrent seizures, leading to physical, social and psychological consequences. It is frequent the emergence of psychiatric comorbidities that would lead to a significant impact on quality of life (QOL) of patients with epilepsy.
Objective: Assess the impact of anxiety and depression in the QOL of patients with epilepsy.
Methodology: It is a descriptive study the clinical profile of 63 patients diagnosed with epilepsy in pursuits in HGU the neurology clinic in Cuiabá-MT, Brazil, from November 2014 to March 2015. Where the following questionnaires were performed: Quality of Life in Epilepsy Inventory (QOLI-31), Morisky Test, Beck Questionnaire (BQ) for Anxiety and Questionnaire Hamilton (QH) for Depression.
Results: The sample consists of 63 patients with mean age of 32.3 years (11-82 years), ratio of Men: Women of 0.75: 1, with 63% in monotherapy, 33% seizure free, while 66.6% have a minimum annual crises, where 60% are - with average adherence by Morisky test. As evidenced 73% with positive QB, 84% positive QH and according to the Spearman correlation (Rs) most related fields to a worsening of QOL by QQLIE - 31 were socialization and cognition (Rs: 0.8) and concern for crises and emotional well-being (Rs: 0.7).
Conclusion: We believe that the improvement of QOL of these patients would not only related to adequate seizure control, but also with the treatment of associated psychiatric comorbidities such as depression and anxiety.

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456
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Epilepsy
Telephonic review of epilepsy patients in India - a randomized parallel group study

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Background: Indian epilepsy patients often travel long distances to reach doctors' clinics for review.
Objective: We studied if telephonic review is feasible, effective and acceptable to epilepsy patients.
Patients and Methods: The study was approved by our IRB. Consecutive stable epilepsy patients were randomized into telephonic (TR) or in-person clinic (CR) review arms. Reviews were done at 3, 6 and 9 months. Primary outcome was number of breakthrough seizures and secondary outcomes were episodes of non-compliance, cost of review and patient satisfaction.
Results: 231 and 234 patients were randomized into the TR and CR arms respectively; mean age was 24.5±11.11 years and there were 281 men. There were 36 drop-outs; 12 from TR and 24 from CR arms who were not included in final analysis. Breakthrough seizures occurred in 129 TR and 149 CR patients (p=0.03). There were 7 episodes of non-compliance in either arm. Patients in the TR arm saved INR 4725 (residents from outside Delhi) or INR 825 (Delhi residents) per visit compared to CR patients. Patients were overall satisfied with telephonic review though they did express concerns about confidentiality.
Conclusion: Telephonic review of epilepsy patients is feasible and effective and accompanied by a significant reduction in cost for the patient specially if they come from far. Providing an option of TR for epilepsy patients living far from care providers may be considered in routine clinical practice. Confidentiality concerns of TR need to be addressed.

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457
WFN15-0599
Epilepsy
A study of early and late epileptic seizure related to ischemic stroke

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Background: Early and late onset seizure is known as a rare complication of ischemic stroke. The mechanism of these symptoms has not been unclear. The purpose of our study is to identify differences between these seizures.
Material and methods: We extracted both patients who showed an early epileptic seizure (EES) identified as an acute ischemic cerebral stroke, and an late symptomatic seizure (LSS) presenting old cerebral stroke taken to our hospital from April 2010 to March 2015 retrospectively. Patients were investigated vital signs, neurological findings, etiology of stroke, MRI findings and type of seizure. These two groups were compared using statistical analyses.
Results: In EES group, patient's age was 74.9 ± 15.7 years old, and most of them showed cardiogenic infarction (50.0%). In LSS group, patient's age was 75.2 ± 10.5 years old, and most of them also showed cardiogenic infarction (58.3%). Symptoms of seizure and infarction areas in cerebral MRI were not significantly different between two groups. Most of them showed secondary generalized seizure and infarctions occupying cortices. In statistical analysis, association with lacunar infarction, infarction at corona radiata and simple partial seizure were significantly more conspicuous in LSS group than EES group. However, patient number of EES group who showed secondary generalized seizure and dementia was significantly larger than LSS group.
Conclusion: Details between two seizure types related to ischemic stroke are quite different. The prognosis of patients who show early seizure is comparatively severe because of significantly relating to large infarct size, generalized seizure and dementia.

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458
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Epilepsy
Epidemiology profile of epilepsy – how can it change our practice?

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Intrduction: It is essential to know the epidemiology of epilepsy in order to understand how we can adjust therapy to achieve better adherence, less side effects and optimal results.
Objectives: This study aims to describe the epidemiological profile of a group of 794 epileptic patients in Brazil and apply the findings to improve the quality of our practice. The goals are to know which factors should influence our routine and to find elements that need to be changed.

Methods: The authors reviewed the medical records of 795 patients with diagnosis of epilepsy seen in 2013 in the Epilepsy Service of the Institute of Neurology/Federal University of Rio de Janeiro. We have obtained Institutional Review Board (IRB) approval.
Results: The results are summarized in Table 1 and Fig. 1.

Conclusions: Our sample has 52,5% of patients below 40 years, an age compatible with bad sleep habits, more episodes of alcoholic libation and suboptimal adherence. Additionally, we must consider teratogenic effects of therapy in this fertile population. We found also that high number (17,4%) use 3 or more drugs, indicating a necessity to approach the question of proper adherence instead of associating multiple medications.

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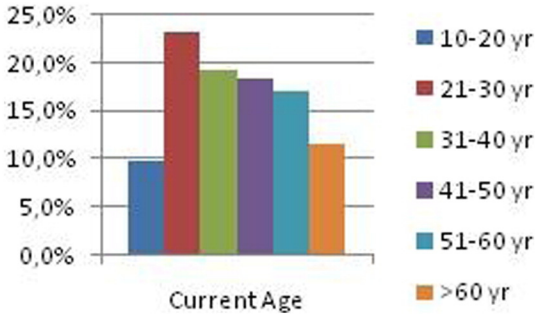

459
WFN15-1523
Epilepsy
Status epilepticus pharmacovigilance. Number of cases in the Dipreca Hospital

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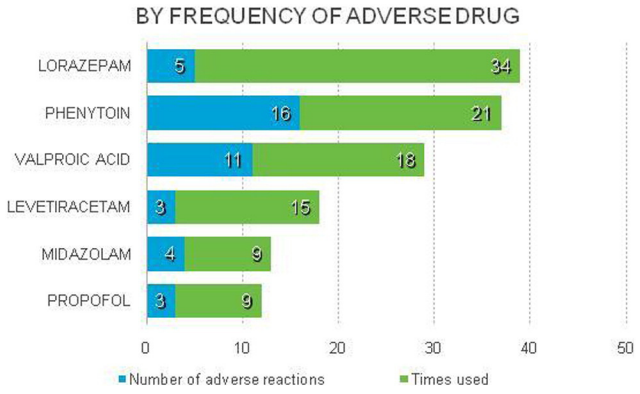
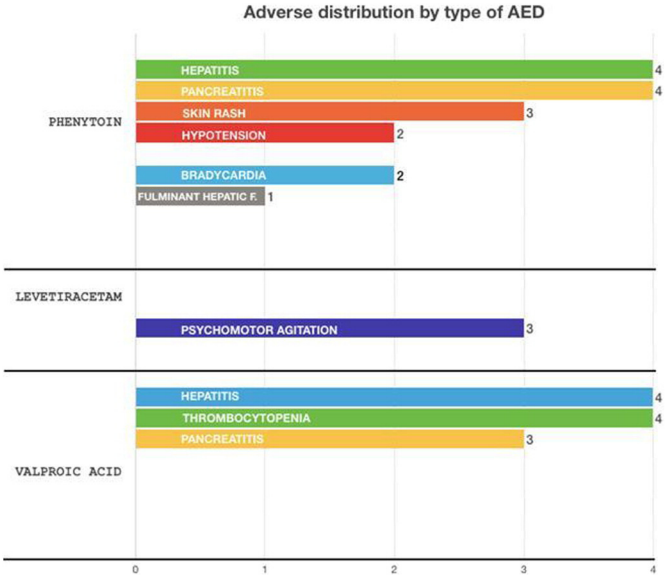
Background: Detection, assessment and understanding of the adverse effects associated with the use of antiepileptic drugs (AEDs) used to control Status Epilepticus (SE) is indispensable. Identify the individual characteristics in relation to various AEDs is useful in anticonvulsant therapy of choice and control.
Objective: Identify adverse reactions relating to the use of AEDs used in the management of status epilepticus and their frequency of occurrence.
Patients and methods: Descriptive study. Review of the medical records of patients with status epilepticus from 2008 to 2013 and prospective from 2013 to 2015, were recorded and analyzed, according to Naranjo's algorithm, adverse reactions reported in relation to the use of AEDs.
Results: Of the 45 cases of SE presented since 2008 in the DIPRECA Hospital, the more frequently adverse reactions related to the use of AEDs were hepatitis, pancreatitis e hypotension. Drugs with the highest number of adverse events found were phenytoin and valproic acid. Levetiracetam showed fewer cases. By correlating causality by Naranjo's algorithm, of the 53 events reported, 14 were categorized as safe (three cases of hepatitis, two cases of hypotension and two of pancreatitis associated with phenytoin, three cases of hepatitis, two cases of pancreatitis and two of thrombocitopenia with valproic acid), 28 probable, 9 possible; the improbable cases, were two patients with psychomotor agitation attributed to levetiracetam.
Conclusion: The new AEDs had shown an improve security profile, which correlates with the data obtained in the literature.

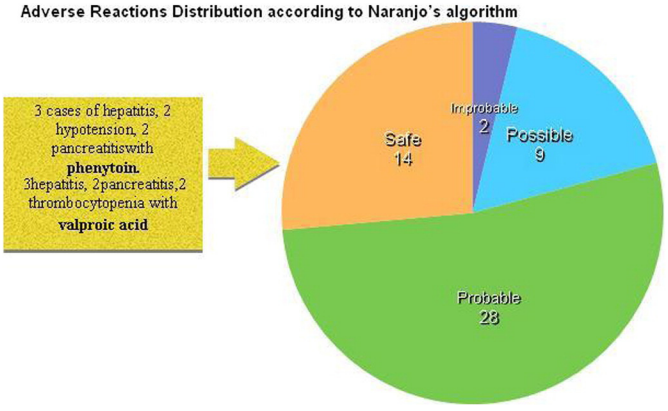
Graph No. 1



Graph No. 2



Graph No. 3



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460
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Epilepsy
Review of a single center data, etiology of failure in kethogenic diet therapy in children with epilepsy

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Object: The purpose of this study is to determine the factors reducing the efficacy of ketogenic diet.
Methods: This is a retrospective, case-based study of 329 children with intractable epilepsy who were referred for treatment with the ketogenic diet at our hospital from June 2012 to January 2015. The diet efficacy was assessed through clinic visits, phone communications, electroencephalography and serum beta hydroxy butyric acid levels every 3 months. Factors reducing the efficacy of KD are determined and incidences are calculated.
Results: Factors determined in those 329 patients [age 7.13 ± 4.4 , 151 female (45.9%), 178 male (54.1%)] were; constipation (28.9%), infection (42.4%), urinary incontinance (16.1%), teeth eruption (12.2%), systemic diseases (0.3%), Hypothyroidism (16.4%), night starveing (4%), use of Aerosal (4.9%), rapid weight gain (21.6%), gastroesophageal reflux (3.3%), carnitin deficnecy (26.7%), blood ketone level difference between day and night (34.7%), encephalopathy (7.3%),refusal of nourishment (6.4%), starvation (9.1%).
Conclusion: Our retrospective study suggest that patients on KD should be follow up closely. Unless there is no clinical improvement on seizure activity, the determined factors above should be considered.

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461
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Epilepsy
Recently diagnosed epilepsy in Latin America: sociodemographic, clinical characteristics and healthcare resources– Latin America observational study on epilepsy patients (live)

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Background: Studies show that Latin America has high rates of epilepsy. Data about recently diagnosed epilepsy supports the understanding of epilepsy natural history in Latin America, which is essential to guarantee a better disease management.
Objective: To describe sociodemographic, clinical characteristics and healthcare resources used by a recently diagnosed epilepsy cohort.
Patients and methods: Retrospective cohort study with medical record abstraction. It was included adults with recently diagnosed epilepsy in Brazil, Argentina, Chile, Colombia and Mexico who had their first admission in reference centers between 2008-2009. The variables were analyzed using annual median and interquartile range and proportions. Median of antiepileptic drugs per patient any time during the follow-up period was calculated.
Results: Sixty six patients were evaluated. Most of the patients were female (56.1%), married or cohabiting (50.8%) and 53% completed high school. The median age was 30.5 (IQR 24-44). The annual median physician visits and seizures per month were respectively, 1.0 and 1.0. Focal seizures, present in 57.6% of the patients, were the most frequent seizure type. During the follow-up period, the median number of AED registered was 1 per patient (IQR 1-2), with carbamazepine the most common AED used (60.6%). Hypertension was the most prevalent co-morbidity (26.9%).
Conclusion: These patients have been diagnosed in their productive age, when epilepsy can cause significant impact on their lives, consequently, an integrated and timely treatment must be priority in order to minimize disease impact. Long term studies are necessary to a better understanding of these patients' prognosis. This study was funded by GSK.

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462
WFN15-1005
Epilepsy
Refractory epilepsy in Latin America: sociodemographic, clinical characteristics and healthcare resources– the Latin America observational study on epilepsy patients (live)

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Background: Data about refractory epilepsy is scarce in Latin America in spite of its known disease impact. Understanding the epidemiology of refractory epilepsy in Latin America is a fundamental tool to plan patients' care.
Objective: To describe sociodemographic, clinical characteristics and healthcare resources used in a refractory epilepsy cohort.
Patients and methods: Retrospective cohort study with medical record abstraction. It was included adult patients with refractory epilepsy from Brazil, Argentina, Chile, Colombia and Mexico who had their first admission in reference centers in 2008-2009. Socioeconomic and clinical variables were analyzed using annual median, interquartile range and/or proportions. Rate of hospitalizations was calculated. Median of antiepileptic drugs (AEDs) per patient was calculated any time during the follow-up period.
Results: Fifty one patients were evaluated. Most of patients were female (54.9%), never married (55.6%) and 41.2% completed the high school. The median age and age of diagnosis were 29 (IQR 22-38) and 14 (IQR 7-21.5). During 2008-2013, the proportion of patients who underwent surgeries was 29%. The median monthly seizures

were 2.0.The rate of hospitalizations was 0.12/person-year. Focal seizures, present in 46.9% of the patients, were the most frequent seizure type. The median number of AED registered was 3 per patient (IQR 1-6.5), being carbamazepine the most common AED used (60.8%). The most prevalent co-morbidity was major depressive disorder (13.3%).

Conclusion: This study shows that refractory epilepsy compromises patients at a productive age. Moreover, it was observed a significant use of healthcare resources as well as psychiatric comorbidities as also as a significant use of healthcare resources. This study was funded by GSK.

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463
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Epilepsy
Efficacy, safety and tolerability of adjunctive Brivaracetam for treatment of partial-onset seizures: post-hoc analysis of results from Latin American patients

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Background: Brivaracetam (BRV), a selective, high-affinity ligand of the synaptic vesicle 2A protein, is in development for adjunctive treatment of partial-onset (focal) seizures (POS).

Objective: To assess the efficacy, safety and tolerability of BRV in a subgroup of patients from Latin America.

Patients and methods: Adults with POS treated with 1-2 AEDs received BRV 5, 20, 50, 100, or 200 mg/day or PBO for ≤12 weeks in three double-blind, randomized, placebo-controlled Phase III studies (NCT00490035, NCT00464269, NCT01261325). The studies were IRB-approved; all patients gave informed consent. Data were pooled (patients receiving concomitant LEV or BRV 5 mg/day were excluded from efficacy analyses). A subgroup of Latin American patients was analyzed.

Results: Of 262 randomized Latin American patients, a high percentage (92.4%) completed the studies. Patients were slightly younger than non-Latin American patients (mean 35.2 [SD 11.5] vs 38.7 [13.2] years), and had failed fewer prior AEDs than non-Latin Americans: 0-1 (36.3% vs 23.1%); 2-4 (50.9% vs 37.1%); ≥5 (12.7% vs 39.9%), respectively. In Latin American patients, percent reduction over PBO in 28-day adjusted POS frequency was: 7.2%, 31.1%, 20.9%, 44.1% (BRV 20, 50, 100 and 200 mg/day groups, respectively). The ≥50% responder rates were 25.6% (20 mg/day), 39.5% (50 mg/day), 48.1% (100 mg/day), and 50.0% (200 mg/day) vs 18.3% (PBO).Treatment-emergent adverse events were reported in 69.1% BRV vs 64.9% PBO patients; most frequently somnolence (19.1% vs 6.8%), dizziness (14.4% vs 6.8%) and headache (10.1% vs 14.9%).

Conclusions: Data from Latin American patients with uncontrolled POS suggested BRV had efficacy over PBO and was well tolerated.

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464
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Epilepsy
Acute phase reactants in generalized tonic-clonic epileptic patients

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Background: There is an increasing evidence to support a role of inflammatory processes in epilepsy.

Objective: In this study, we will focus on the possible role of inflammation by measuring Ceruloplasmin and High Sensitive CRP (hs-CRP) levels in Generalized Tonic-Clonic Epileptic Patients.

Patients and methods: The study groups consisted of thirty-four Generalized Tonic-Clonic Epileptic Patients who were on monotheraphy of AEDs and thirty-four Generalized Tonic-Clonic Epileptic Patients who were on polytherapy with control group of thirty healthy individuals. Informed consent for participation in this study was obtained from all participants. The serum of blood samples was then separated from the cells by centrifugation, and were stored at −80 °C until analysis.

Results: hs-CRP levels were significantly higher in the group using antiepileptic drug polytherapy to control group ($p = 0.00$). hs-CRP values in the group using antiepileptic drug monotherapy were was significantly higher compered to control group ($p = 0.02$). hs-CRP levels in the group using antiepileptic drug polytherapy group was significantly higher statistically significant compared to the group of using antiepileptic drug monotherapy ($p = 0.00$). To compare the Ceruloplasmin levels in the patient group and the control group difference was not statistically significant ($p = 0.58$).

Conclusion: Finally, inflammation seems to contribute to epileptogenesis. Based on the available data, we highlight the need for further studies dissecting the exact role of inflammation in epilepsy during development. Our findings demonstrate a relevant relationship between epilepsy and systemic inflammation, with a consistent link between seizures early acute phase markers (hs-CRP).

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