EP2232

**Prognosis of idiopathic generalized epilepsy patients with at least 10 years follow up and predictors of at least 5 years remission off medication**

A.A. Ashmawi, H. Hosny
Cairo University, Cairo, Egypt

**Purpose:** The idiopathic generalized epilepsies (IGEs) constitute nearly a third of all epilepsies. The aim of this study was to analyze long-term outcome in patients with IGE and predictors of at least 5 years seizure remission off medication.

**Method:** In this retrospective cohort study, we analyzed seizure outcome in 65 patients who had IGE with follow up for at least 10 years at single epilepsy center in Egypt.

**Results:** After a mean follow up of 13 years, 47 (72%) of the patients remained free of seizures for at least 5 years throughout the duration of follow up. Among the seizure free patients, 38 (81%) were taking AEDs and 9 (19%) were off medication for at least 5 years. Among the 9 patients with at least 5 years seizure remission off medication during the follow up period, none had epilepsy with GTCs only, 7 patients were females, 7 patients had more than 50% normal EEGs of all EEGs done during follow up period, 8 patients were on monotherapy low dose, 1 patient had sleep deprivation as precipitating factor for seizures. None of 9 patients had 3 seizure types.

**Conclusion:** A significant proportion of the patients with IGE with at least follow up 10 years achieved at least 5 years seizure remission off medication. Good predictors for at least 5 years seizure remission off medication were female gender, normal EEGs more than 50%, low dose monotherapy while bad predictors were epilepsy with GTCs only, 3 seizure types and sleep as precipitating factor.

**Disclosure:** Nothing to disclose

---

EP2233

**What do ‘they’ perceive about epilepsy?**

H.D. Ataklı¹, P. Doğan Ak², B. Güveli¹, B. Yüksel³, H. Sarı¹
¹Neurology, Bakirkoy Psychiatry, Neurology and Neurosurgery Research and Training Hospital, ²Fatih Sultan Mehmet Research and Education Hospital, Istanbul, ³Neurology, Antalya Research and Education Hospital, Antalya, Turkey

**Introduction:** Studies showed that epilepsy is one of the poorly understood diseases among public. We purposed to investigate the social attitude to epilepsy and perceived stigma of epilepsy among patients.

**Methods:** The study was approved by the Local Ethics Committee and designed as a cross-sectional, descriptive study. Participants consisted patients with various types of seizures, were randomly chosen from the epilepsy outpatient clinic. A questionnaire was developed and consisted of items about negative attitudes and perceived stigmatization.

**Results:** Of the 330 patients with epilepsy, mean age was 29.05±11.31 years (range: 13-74), 64.8% were female and 35.2% were male. See Table 1 for respondent demographics. The questions related to stigmatization showed that 41.8% of patients felt different from other people without epilepsy. 39.9% of the married patients with epilepsy who were diagnosed before their marriage stated that they did not tell about the disease to their partners before. Furthermore, 48.0% of patients who had epilepsy during their education stated that their teachers and friends did not know about their illness. 37.4% stated that they hid their illness at their workplace. 44.6% had difficulty in finding jobs because of disease.

**Conclusions:** Studies showed that people from general public are not very knowledgeable about epilepsy. This leads to prejudice, stigmatization and inaccurate treatment. We would like to show the attitudes toward epilepsy and how it affects the lives of people with epilepsy.

**Disclosure:** Nothing to disclose
EP2234

P-glycoprotein (Pgp) overactivity in pharmacoresistant epilepsy patients with focal cortical dysplasia compared to healthy controls measured using (R)-[11C] verapamil PET and the Pgp inhibitor Tariquidar

M. Feldmann¹,², M.-C. Asselin³, S. Wang⁴, A. McMahon², R. Hinz², J. Duncan¹, S. Sisodiya¹, M. Koepp¹
¹Department of Clinical and Experimental Epilepsy, National Hospital for Neurology and Neurosurgery, London, ²Institute of Population Health, Wolfson Molecular Imaging Centre, University of Manchester, Manchester, United Kingdom

Introduction: Focal cortical dysplasia (FCD) is a common cause of pharmacoresistant epilepsy. P-glycoprotein (Pgp) expression was observed in reactive astrocytes in FCD, suggesting that overactivity at the blood-brain-barrier prevents antiepileptic drugs from entering target sites [1]. Recently, we could detect in-vivo evidence for Pgp overactivity in the sclerotic hippocampus using positron emission tomography (PET) and the Pgp substrate (R)-[C-11]verapamil (VPM) together with the Pgp inhibitor Tariquidar (TQD) [2]. Here, we report the application of this methodology to three patients with FCD and pharmacoresistant epilepsy.

Methods: Three pharmacoresistant FCD patients (2 male, age 24-62y) and 13 healthy controls (7 male, age 35-55y) underwent VPM PET scans before and after TQD. Parametric maps of VPM-K1, the plasma-to-brain transport rate constant, were generated for voxel-based analysis using SPM8. We hypothesize that VPM uptake at baseline and VPM increases after TQD would be reduced in brain areas with Pgp overactivity in pharmacoresistant FCD.

Results: Compared individually against the group of 13 controls, all three FCD patients had reduced VPM-K1 at baseline and reduced VPM-K1 increases after TQD, both in close proximity to the area of FCD identified by MRI and the reduction also extended further to other cortical regions (p<0.01).

Conclusions: Reduced VPM-K1 at baseline and reduced increases in VPM-K1 after TQD support Pgp overactivity in pharmacoresistant FCD patients not limited to epileptogenic areas, but also extending to other cortical regions, suggesting widespread abnormalities in FCD.

References:

Disclosure: Nothing to disclose

EP2235

Self-Management education for adults with poorly controlled epILEpsy (SMILE): a randomised controlled trial protocol

L.L. Ridsdale¹, I. Kralj-Hans¹, A. Noble², S. Landau³, P. McCrone⁴, M. Morgan⁵, G. Baker⁶, S. Taylor⁷, L. Goldstein⁸
¹Clinical Neuroscience, King’s College, London, London, ²Department of Psychological Sciences, University of Liverpool, Liverpool, ³Department of Biostatics, ⁴Department of Health Service & Population Research, ⁵Division of Health and Social Care Research, King’s College, London, London, ⁶Department of Clinical Pharmacology, University of Liverpool, Liverpool, ⁷Centre for Health Sciences, Barts & The London School of Medicine and Dentistry, ⁸Department of Psychology, King’s College, London, London, United Kingdom

Introduction: Teaching people with epilepsy to identify and manage seizure triggers, implement strategies to remember to take antiepileptic drugs, implement precautions to minimize risks during seizures, tell others what to do during a seizure and learn what to do during recovery may lead to better self-management. No teaching programme exists for adults with epilepsy in the United Kingdom although a number of surveys have shown patients want more information.

Methods: This is a multicentre, pragmatic, parallel group randomised controlled trial to evaluate the effectiveness and cost-effectiveness of a two-day Self-Management education for epILEpsy (SMILE UK), which was originally developed in Germany (MOSES). Four hundred and twenty eight adult patients who attended specialist epilepsy outpatient clinics at 15 NHS participating sites in the previous 12 months and who fulfil other eligibility criteria will be randomised to receive the intervention (SMILE (UK) course with treatment as usual- TAU) or to have TAU only (control). The primary outcome is the effect on patient reported quality of life. Secondary outcomes are seizure frequency and psychological distress (anxiety and depression), perceived impact of epilepsy, adherence to medication, management of adverse effects from medication, and improved self-efficacy in management (mastery/control) of epilepsy. Within the trial there will also be a nested qualitative study to explore users’ views of the intervention, including barriers to participation and the perceived benefits of the intervention. The cost-effectiveness of the intervention will also be assessed.

Results: Teachers have been recruited and the intervention piloted.

Conclusions: The full RCT is now underway.

Disclosure: Nothing to disclose
**EP2236**

**EEG as a prognostic tool for classic absence**

K. Tawfik  
*Ain Shams University, Cairo, Egypt*

**Introduction:** The main purpose of this paper is to offer some guidance to expect the prognosis of typical absence from the EEG.  
**Methods:** This was an observational study conducted from July 2006 to July 2012. Data of 42 newly diagnosed patients with typical absence seizures was collected retrospectively and analyzed.  
**Results:** The mean time until seizure and EEG control for those with +ve 3 Hz. SWC during routine EEG recording was $(9.9±14.4)$ months. While the mean total follow up period for all cases were $(19.3±20.5)$. 100% of patients with +ve 3 Hz. SWC during the 3rd minute and after HV were controlled and 80% of the overall no. of controlled patients in this study was found during 3rd min HV (p value=0.049). The majority of the controlled patients with 3 Hz. SWC after HV and during 2nd minute or 3rd minute HV was prescribed only monotherapy.  
**Conclusions:** Prognosis of typical absence was good yet the presence of the 3 Hz. SWC with late onset either during the 3rd minute HV or even after had a better prognosis as regard; All of this group were controlled, monotherapy was used to control the majority of patients with late onset 3 Hz. SWC. These data was only significant for the association between the 3Hz SWC and the percentage of control of absence seizures during the 3rd minute HV (80%) [p value=0.049]. A multicenter study should be done in the nearby future.  
**Disclosure:** Nothing to disclose

**EP2237**

**Abstract withdrawn**

**EP2238**

**Comparative effectiveness of the antiepileptic drugs (AEDs) levetiracetam, valproate and carbamazepine among patients aged 60 years and over with newly diagnosed epilepsy**

I. Wild¹, M. Noack-Rink², F. Ramirez², A. Tofighy¹, K. Werhahn²  
¹UCB Pharma, Brussels, Belgium, ²UCB Pharma, Monheim, Germany

**Introduction:** The efficacy and safety of levetiracetam (LEV) were compared with those of the standard AEDs valproate (VPA) and carbamazepine (CBZ) among patients aged ≥60 years in a post-hoc analysis of KOMET trial data (Trinka E, et al. J Neurol Neurosurg Psychiatry 2013).  
**Methods:** Patients with ≥2 unprovoked seizures in the previous 2 years or ≥1 in the previous 6 months participated in this open-label, 52-week trial. Physicians chose CBZ as first-line treatment for patients with presumed focal and VPA for those with presumed generalised/unclassifiable epilepsy. Patients were randomised to CBZ/VPA or LEV with time to treatment withdrawal as primary outcome.  
**Results:** 155 patients (aged ≥60 years; 103 focal, 52 non-focal) were treated with standard AEDs and 152 with LEV (104 focal, 48 non-focal). Time to treatment withdrawal was significantly longer for LEV compared with standard AEDs: HR (95% CI) $0.44$ (0.28-0.67), p<0.001. Treatment withdrawal rates were numerically lower with LEV compared with standard AEDs at 6 (14.5% vs 34.2%) and 12 months (20.4% vs 38.7%). Time to first seizure [HR (95% CI) $0.92$ (0.63-1.35)], and seizure-freedom rates at 6 (65.6% vs 62.9%) and 12 months (61.8% vs 59.1%) were similar with LEV or standard AEDs. LEV-treated patients had a longer time to withdrawal due to adverse events [HR (95% CI) $0.36$ (0.20-0.62)] and there were fewer overall withdrawals due to AEs (11.2% vs 26.5%) suggesting better tolerability of LEV compared with standard AEDs.  
**Conclusions:** LEV is an effective treatment option for elderly individuals with new-onset epilepsy.  
**Disclosure:** UCB sponsored. All authors are employees of UCB Pharma.
EP2239

Non-expert use of quantitative EEG displays for seizure detection in the adult neuro-intensive care unit

N. Dericioglu, E. Yetim, D.F. Bas, N. Bilgen, G. Caglar, E.M. Arsava, M.A. Topcuoglu
Neurology, Hacettepe University Faculty of Medicine, Ankara, Turkey

Introduction: Non-convulsive status epilepticus (NCSE) can only be recognized by continuous video-EEG in the neurological intensive care unit (NICU). Quantitative EEG display methods like amplitude integrated EEG (aEEG) and density spectral array (DSA) have been developed to facilitate EEG interpretation and may even be used by non-experts. We investigated whether these methods could be used by NICU personnel for seizure identification.

Methods: Ten patients with NCSE and ten control subjects without seizures were enrolled. EEG recordings of all patients were converted to aEEG and DSA, displayed simultaneously without conventional EEG. Two physicians and two nurses, who were trained for seizure recognition with both methods, analyzed the visual displays individually and marked seizure timings. Their results were compared statistically with those of the electroencephalographer.

Results: Participants analyzed 615 hours of EEG data with 700 seizures. Overall, 63% of the seizures were recognized by all, 15.6% by three, 11.6% by two, 8.3% by one rater and only 1.5% were missed by all of them. A cyclic pattern of seizures facilitated recognition, whereas bilateral independent seizures were more likely to be missed when compared with focal unilateral or generalized seizures. False positive rates were 1 per 2 hours in the study and 1 per 6 hours in the control groups. Interrater agreement was high (k=0.79-0.81, p<0.001). There was no difference in performance between physicians and nurses.

Conclusions: NICU personnel can be trained for seizure recognition using the digital EEG trend analysis methods. This may lead to early identification and treatment of NCSE.

Disclosure: This study was supported by the Hacettepe University Research Fund grant No. 1-801 105 001.

EP2240

Targeting hyperphosphorylated tau is a disease-modifying treatment in a post-status epilepticus rat model of temporal lobe epilepsy

P. Zheng1, S. Shultz1, S. Liu1, D. Wright2, C. Hovens1, N. Jones1, T. O’Brien1
1Royal Melbourne Hospital, Melbourne, 2Florey Neuroscience Institute, Melbourne, VIC, Australia

Introduction: To investigate whether treatment with sodium selenate, a drug that reduces the pathological hyperphosphorylation of tau by increasing protein phosphatase 2A (PP2A) activity, would reduce spontaneous seizures, neurodegeneration and glial activation in a post-status epilepticus (SE) rat model of temporal lobe epilepsy (TLE).

Methods: After four hours of SE induced by systemic kainic acid (KA) injections, or control-saline injections, young-adult male Wistar rats (n=9/group) were given continuous sodium selenate treatment (1mg/kg/day), with a subcutaneous osmotic mini-pump for two months. In-vivo MRI and MRS was used to assess neuronal damage and glia activation one month post-injury. Video-EEG recording was used to evaluate the seizure frequency and duration both during the treatment and after the treatment. Molecular tests were used to assess levels of hyperphosphorylated tau and related pathologies.

Results: During the treatment, the post-SE rats with saline treatment got 1.4 seizures /day, and selenate treatment could reduce the frequency to 0.1 seizures/day. After the drug washout, the effect was sustained (8.6 seizures/day in saline group vs. 2.6 seizures/day in selenate group). Selenate treatment also decreased the neurodegeneration and glial activation reflected by MRS imaging and further confirmed by immunofluorescence imaging. The selenate treatment also reduced the volume of ventricles and increased the volume of hippocampus in post-SE rats.

Conclusions: Sodium selenate treatment can reduce spontaneous seizures and biomarkers for neurodegeneration and glial activation in a post-SE rat model of TLE.

Disclosure: Nothing to disclose
EP2241

Dystrophin expression in an animal model for temporal lobe epilepsy

M. Aalbers¹, R. Hendriksen², S. Schipper², J. Hendriksen³, G. Hoogland³, H. Vles⁵
¹Maastricht University Medical Center, ²School for Mental Health and Neuroscience, Maastricht University, Maastricht, ³Centre of Neurological Learning Disorders, Kempenhaeghe, Heeze, ⁴Neurosurgery, ⁵Neurology, Maastricht University Medical Center, Maastricht, Netherlands

Introduction: Duchenne muscular dystrophy is a genetic disorder caused by alterations in the dystrophin gene. Aside from progressive muscular degeneration, Duchenne muscular dystrophy is also associated with cognitive deficits such as impairment in expressive language, working memory, and attention. Moreover, recent literature showed that the prevalence of epilepsy is higher in boys with Duchenne muscular dystrophy, suggesting that a lack of dystrophin may result in increased seizure susceptibility. We aimed to determine whether increased seizure susceptibility also results in an alteration in dystrophin expression within the central nervous system.

Methods: We evaluated dystrophin expression in adult amygdala kindled rats by analyzing dystrophin expression by Western blot and by immunofluorescence in several brain regions.

Results: Immunoblotting demonstrated that the various isoforms of dystrophin, including some of the isoforms that are present in skeletal muscle, are expressed differently in the hippocampus, cortex, and cerebellum of amygdala kindled rats. Dystrophin appeared to co-localize with both astrocytes and endothelial cells. Dystrophin was also expressed in Purkinje cells, where it was mainly localized within the membrane of both the soma and the dendrites.

Conclusions: In short, dystrophin is ubiquitously expressed in the brains of amygdala kindled rats.

Disclosure: Nothing to disclose

EP2242

Abstract withdrawn

EP2243

Epilepsy impairs long-term functional outcome after different stroke subtypes

K. Rasulova¹, G.S. Rakhimbaeva², R.B. Azizova²
¹Pediatric Medical Institute, ²Tashkent Medical Academy, Tashkent, Uzbekistan

Introduction: To determine the influence of post-stroke epilepsy on long-term functional outcome in stroke survivors.

Methods: This study is a prospective cohort study among 140 stroke survivors with a first-ever TIA, ischemic stroke, or intracerebral hemorrhagic (ICH) stroke, aged 18 to 90 years. After a mean follow-up of 10 years, we performed a follow-up assessment that included an evaluation for post-stroke epilepsy and functional outcome. Odds ratios for poor outcome on the modified Rankin Scale (mRS) (score>2) and Instrumental Activities of Daily Living (IADL) (score< 8) were calculated using logistic regression analysis.

Results: One hundred twelve patients (80%) with ischemic stroke, 4 patients (2.8%) with TIA, and 28 patients (20%) with ICH developed post-stroke epilepsy. Ischemic stroke patients with epilepsy more often had a poor functional outcome than those without, both on the mRS and IADL (mRS score>2: 24.5% vs. 9.2%, p=0.001; IADL< 8: 28.8% vs. 14.6%, p=0.02). In this case, epilepsy occurred in 24.5% of patients with cardioembolic stroke. Epilepsy was not related to functional outcome in patients with TIA and ICH. Multiple regression analysis revealed that epilepsy was an independent predictor of poor functional outcome after ischemic stroke assessed by mRS (mRS score>2: odds ratio 4.02, 95% confidence interval 1.33-8.60). In contrast, there was no such relation for IADL.

Conclusions: Epilepsy after stroke is a common problem that negatively affects functional outcome, even more than 10 years after ischemic stroke.

Disclosure: Epilepsy after stroke is a common problem that negatively affects functional outcome, even more than 10 years after ischemic stroke.
EP2244
Abstract withdrawn

EP2245
Epilepsy in children and adolescents
D.W. Ben Adji Mamadou
UCAD, Dakar, Senegal

Epilepsy is a public health problem in Senegal, with a prevalence of 8.3 to 14/1000. It mainly affects children. The objective of this work is to study the biographical aspects, phenotypic and evolutionary of epilepsy in a cohort of children in Senegal.

Patients and methods: This is a retrospective chart review of children with epilepsy followed up regularly at Fann University Hospital and Children’s Hospital Albert Royer, July 2003 to December 2010. Inclusion criteria were: epilepsy aged under 16 years, regularly monitored for at least 3 years, with appropriate treatment, effective dose, with good adherence.

Results: We collected 522 children, aged 3 months to 16 years, with a sex ratio of 1.7 in favor of boys. The epilepsy was idiopathic in 57% of children and non-idiopathic in 43% of patients. Etiological factors were dominated by parental consanguinity, abnormal pregnancy and childbirth, infections of the central nervous system. In the group of idiopathic epilepsies not, the signs associated with epilepsy were language disorders (15.70%), behavior (15%) and motor deficits (10.32%). 22.41% of school children had learning difficulties sometimes leading to repetition or school exclusion.

Conclusions: The fight against epilepsy in Senegal implies an effective prevention policy with necessarily improving the socio-health and the fight against infections. This is the challenge of the Senegalese league against epilepsy.

Disclosure: Nothing to disclose
EP2246

Concerns and questions with respect to epilepsy, antiepileptic drug (AED) treatment and pregnancy experiences from the German pregnancy registry

H. Cakiroglu, M. Bengner, S. Nazari Dehkordi, B. Schmitz

Department of Neurology, Vivantes Humboldt-Klinikum, Berlin, Germany

Introduction: The German Registry of Antiepileptic Drugs and Pregnancy (GRAP) participates in the European Pregnancy Registry (EURAP) and offers nationwide free consultation service via mail or phone. The starting point of this study was the EURAP-NL (Netherlands) report from 2012. We evaluated the German database.

Methods: We retrospectively analyzed all incoming questions that were addressed via email to GRAP by women with epilepsy, their relatives or physicians within a 4 year period (April 2009 - April 2013). A total number of 106 inquiries were included. Characteristics of questioners, question topics, AED treatment regimes and timing of inquiry relative to the pregnancy were evaluated.

Results: The majority of questions were addressed by epilepsy patients (51.9%, n=55), followed by healthcare professionals (45.3%, n=48), in particular neurologists (34%, n=36). The 3 most common topics were related to congenital malformation risks associated with AEDs, AED treatment adjustments during pregnancy and demand of additional information material besides current guidelines. The most frequently AEDs mentioned were levetiracetam (n=40), lamotrigine (n=39) and valproate (n=18). More than half of the inquiries were asked outside the pregnancy period (51.2%, n=44).

Conclusions: This study showed similar to experiences in the Netherlands that there is an immense need of additional information for women with epilepsy and their physicians. Our results may help to detect information deficits in purpose to develop new guidelines for healthcare providers and establish further information and counselling materials for women with epilepsy.

Disclosure: Nothing to disclose