

## EW0700

### Altered functional connectivity in default mode network in Internet gaming disorder with childhood ADHD

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**Objective** Internet gaming disorder (IGD) is a type of behavioral addiction characterized by abnormal executive control, leading to loss of control over excessive gaming. Attention deficit and hyperactivity disorder (ADHD) is one of the most common comorbid disorders in IGD, involving delayed development of the executive control system, which could predispose individuals to gaming addiction. We investigated the influence of childhood ADHD on neural network features of IGD.

**Methods** Resting-state functional magnetic resonance imaging analysis was performed on 44 young, male IGD subjects with and without childhood ADHD and 19 age-matched, healthy male controls. Posterior cingulate cortex (PCC)-seeded connectivity was evaluated to assess abnormalities in default mode network (DMN) connectivity, which is associated with deficits in executive control.

**Results** IGD subjects without childhood ADHD showed expanded functional connectivity (FC) between DMN-related regions (PCC, medial prefrontal cortex, thalamus) compared with controls. These subjects also exhibited expanded FC between the PCC and brain regions implicated in salience processing (anterior insula, orbitofrontal cortex) compared with IGD subjects with childhood ADHD. IGD subjects with childhood ADHD showed expanded FC between the PCC and cerebellum (crus II), a region involved in executive control. The strength of connectivity between the PCC and cerebellum (crus II) was positively correlated with self-reporting scales reflecting impulsiveness.

**Conclusion** Individuals with IGD showed altered PCC-based FC, the characteristics of which might be dependent upon history of childhood ADHD. Our findings suggest that altered neural networks for executive control in ADHD would be a predisposition for developing IGD.

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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## EW0701

### A new model as an early life manipulation: Fake mother

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**Introduction** Early life stressful events cause long-term neural changes that are associated with psychiatric disorders.

**Objective** Early life manipulations focus on commonly the impact of remaining separate from the mother in a specific period of time. The maternal odor is required for pups to approach the mother for nursing. What happens when there is a mother that smell like a real mother but does not take care her own pups?

**Aim** To investigate the fake mother effects on adult rat's behavioral changes, NMDAR2B protein level changes in prefrontal cortex and hippocampus.

**Methods** Wistar rats were used. Fake mother (n:13), early handling (n:12), maternal separation (n:14) and control (n:12) were the study groups. A fake mother is an object that smells like a real dam. When the real mother is separated from own pups fake mother stays with the pups for an hour. Manipulations were made during the postnatal first 14 days. Behavioral tests (social interaction test, elevated plus maze, novel object recognition test) were made between postnatal 62 and 78 days. NMDAR2B protein levels in prefrontal cortex and hippocampus were evaluated by using ELISA at postnatal 78 days.

**Results** In social interaction test, fake mother group exhibited less social behavior and more aggressive behavior than the other groups. Their long-term memory functions were the lowest. NMDAR2B protein levels in the hippocampus increased in rats that exposed to early stressful life events.

**Conclusion** These results support that being raised by fake mother increases aggressive behavior and decrease social behavior in adulthood.

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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## EW0702

### Neural correlates of behavioral inhibition in healthy people and in patients with borderline personality disorder and ADHD

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**Introduction** Deficits in behavioral inhibition leading to impulsivity occur frequently in many otherwise different psychiatric diseases, mainly ADHD and borderline personality disorder (BPD). However, the research is complicated by using of different tests and their parameters. Further, the role of frontoparietal network in behavioral inhibition has been questioned recently.

**Objectives** The aims of our studies were:

- to present the influence of differences in inhibition tasks parameters;
- to describe neural correlates of behavioral inhibition in healthy people;
- to compare them with BPD and ADHD patients.

**Methods** We implemented two different variants of Go/NoGo Task, one designed for behavioral research and the second for neuroimaging. Thirty healthy participants (37% of women, age range 15 to 33 years) underwent behavioral and fMRI measurement. Further, groups of patients with BPD, ADHD and their healthy controls underwent the Go/NoGo Task under both fMRI and EEG.

**Results** The results show differences in behavioral performance based on different task parameters. The fMRI results in healthy people show specific activation patterns within the frontoparietal network associated with inhibition trials (mainly inferior frontal gyrus, insula, cingulate gyrus, SMA, inferior parietal lobule). Further, we present differences between patients with BPD, ADHD and controls in BOLD signal and ERPs.

**Conclusions** Go/NoGo Task design substantially influences the subjects' behavioral performance. Our results with methodologically upgraded Go/NoGo Task design provide support for the inhibition frontoparietal brain network and its different activations in BPD and ADHD patients. The research was supported by Ministry of Health of the Czech Republic, grant nr. 15-30062A.

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#### EW0703

### The squeezing snake, a psychiatric presentation of epilepsy: A case report

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**Introduction** Epilepsy is considered a complex neurological disorder with a great variety of clinical presentations that can resemble psychiatric disorders.

**Objectives** Disclose an unusual clinical case with psychiatric symptoms as the presentation of epilepsy.

**Methods** Psychiatric assessments and retrospective review of the clinical file and literature research.

**Results** A 40-years-old Romanian woman presented to the psychiatry outpatient service with a history of persistent depressive mood and disturbed sleep for the past 3 years, complaining of a feeling that she described as “a snake squeezing around her body, starting in her left leg and spreading to the rest of her body up to the neck” associated with a sense of pins and needles, occurring during night time. She attended general practice, neurosurgery and psychiatry appointments. Her medical history included “gastritis” and lower left leg fracture and a pituitary microadenoma revealed in brain CT-scan. Blood work, including endocrine tests and brain-MRI were normal. Her symptoms initially led to diagnosis of: anxiety, somatization, Ekbom syndrome and depression. She was treated with antidepressives, antipsychotics and anxiolytics, without response. After careful reconstruction of the clinical history and further analyses of her complaints, the diagnosis of focal sensory jacksonian seizure was made. Levetiracetam introduction led to symptomatic remission.

**Conclusion** Epilepsy includes a variety of neuropsychiatric symptoms. This case illustrates that epileptic patients may experience non-convulsive seizures that might be mistaken as primary psychiatric disorders. Neurologists and psychiatrists must be aware of this varied presentation while obtaining the medical history in order to investigate and manage this patient effectively.

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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#### EW0704

### A case of neurosyphilis in a patient presenting with bipolar mixed episode suggestive symptoms

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**Introduction** Syphilis is a sexually transmitted disease caused by *Treponema pallidum*. Early invasion of the central nervous system might occur early in the course of the disease. Clinical manifestations may include acute meningeal syphilis, meningovascular syphilis, parietic neurosyphilis and tabetic neurosyphilis. Psychiatric symptoms are often the presenting symptoms of this illness and the correct diagnosis involves both a high degree of suspicion and adequate diagnostic tests.

**Objectives** The authors report a case of a patient, with no previous history of mental illness, initially admitted in a psychiatric unit with a clinical picture suggestive of a mixed bipolar disorder episode who has been diagnosed with neurosyphilis a year after.

**Methods** Review of clinical records and complementary exams.  
**Results** By the first admission, the patient presented with depressed and irritable mood, emotional lability, aggressiveness, grandiose and racing thoughts. Upon discharge, he was diagnosed with bipolar disorder and referred to ambulatory unit. The following year he starts presenting cognitive deficits and a progressive loss of autonomy in daily living activities, being referred to neurology evaluation. A year after the first admission, he is admitted in a neurology unit and diagnosed with neurosyphilis.

**Conclusions** Current prevalence of symptomatic neurosyphilis in Western Europe is unknown. Atypical cases presenting with heterogeneous psychiatric and neurologic symptoms, with no previous history of mental illness, should raise a high index of clinical suspicion, since consequences for the patient's health might be severe if not properly diagnosed and treated.

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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#### EW0705

### Reduced left frontal GABA in ultra-high risk of psychosis patients. 1H MRS study

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**Introduction** Some previous findings indicate participation disturbance of balance between excitatory (GABA) and inhibitory (Glu) neurotransmitters in pathogenesis of schizophrenia. The aim of this study was to evaluate GABA and GLX levels in the brain of medicated UHR subjects.

**Objectives** Twenty-one (18–25 years, mean = 19.4, SD = 3.5) right-handed medicated UHR men and 26 (18–25 years, mean = 19.8, SD = 2.2) mentally healthy volunteers participated in this study. The patients were included in the UHR group in accordance with criteria of prodromal states.

**Methods** 1H MRS (MEGA-PRESS pulse sequence [Mescher, NMR Biomed 1998;11:266]) was used for GABA and GLX detection. Volumes of interest in size of 30 × 30 × 30 mm were placed in the left and right frontal lobes in the areas of the anterior cingulate cortex (ACC) (Fig. 1).

**Results** The main effects on the GABA/Cr ( $t[45] = 4.17, P < 0.01$ ) (Fig. 2A) and GABA/GLX ( $t[45] = 2.84, P < 0.01$ ) (Fig. 2B), were found in the left ACC ( $t[45] = 4.17, P < 0.01$ ), with the patients having lower GABA/Cr and GABA/GLX ratios as compared to the control group. Also significant negative correlation ( $r = -0.49, P = 0.04$ ) between GABA/Cr in the right ACC and the current daily dosage of antipsychotic medication in CPZ-Eq was found (Fig. 3).

**Conclusion** This study reveals for the first time a significant reduction of (GABA) (25%) and GABA/GLX ratio (20%) in left AC of UHR subjects. According to (de la Fuente-Sandoval, Int J Neuropsychopharmacol 2015;19[3]) and association of (GABA) with daily dosage of medication found, this reduction may be caused by the antipsychotic treatment.

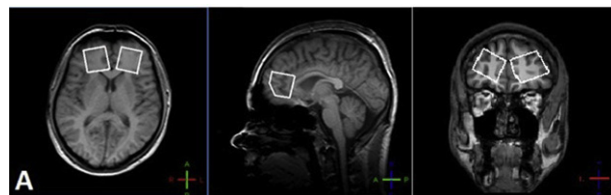


Fig. 1 1H MRS VOI localizations.