

an activating signal (as ATP), which promotes the formation of the complex.

**Methods:** Organotypic slices were used to assess the interplay between inflammation and epilepsy. Slices were exposed to different concentrations of LPS (5, 10 and 20 ng/mL), either alone or in the presence of ATP (1 mM). LPS-induced inflammation was characterized using molecular-based assays, such as ELISA to quantify IL-1 $\beta$ , CBA to measure TNF- $\alpha$ , and western blot to assess the expression of Iba-1, GFAP, NLRP3/ASC, and  $\alpha$ II-Spectrin. Field potential recordings were used to evaluate the epileptic-like activity of the slices and the effect of MCC950, a NLRP3 selective inhibitor,<sup>2</sup> was assessed.

**Results:** Results obtained by ELISA showed a significant increase in IL-1 $\beta$  concentration in slices exposed to 10 ng/ml LPS/1 mM ATP. TNF- $\alpha$ , assessed by CBA, was also significantly increased in this condition, corroborating the inflammatory phenotype. No changes in NLRP3 expression were observed by immunoblot analysis, but ASC, one component of the inflammasome, showed a decreased expression in LPS/ATP exposed slices, suggestive of its binding to NLRP3 and thus to complex formation.

Furthermore, epileptic-like activity, measured by field potential recordings, was blocked by MCC950 (10  $\mu$ M).

**Conclusion:** We demonstrate that LPS induces an inflammatory phenotype in organotypic slices. NLRP3 blockade eliminated the epileptic-like activity of the slices.

## References

- Walsh JG, Muruve DA, Power C. Inflammasomes in the CNS. *Nat Rev Neurosci.* 2014;15:84–97.
- Coll RC, Robertson AAB, Chae JJ, et al. A small-molecule inhibitor of the NLRP3 inflammasome for the treatment of inflammatory diseases. *Nat Med.* 2015;21:248–55.

<http://dx.doi.org/10.1016/j.pbj.2017.07.075>

## PS110

### Study of the modulatory CNS regions in the visual circuit Retina-Superior Colliculus-Lateral Posterior nucleus triggering freezing behavior



Ares Sellés Rius

*NERF (Neuro-Electronics Research Flanders), Karl Farrow's Laboratory, Belgium*  
E-mail address: [aresseri.28@gmail.com](mailto:aresseri.28@gmail.com).

**Aim:** The goal is to understand the neuronal networks organization from the sensory input to the freezing behavior through the identification of modulatory brain regions that project to the Superior Colliculus.

**Introduction:** The behavior of an animal can be triggered by signals in its visual environment. Threatening visual stimulus evoked innate defense behaviors as freezing behavior. This project is focused in one visual-guided behavioral circuit that links the retina visual information with the Lateral Posterior thalamic nucleus(LP) via Superior Colliculus(SC).

**Methods:** The experimental approach is based on retrograde viral tracing techniques. Using the stereotaxic surgery, the first injection with a Herpes Simplex Virus expressing TVA receptor and glycoprotein G was done at LP. After 21 days, the second injection was done at the SC with a Rabies Virus coated by EnvA and lacking of glycoprotein G. The combination of these viruses allowed the restriction of the viral tracing to the circuit of interest. Subsequently, the experimental procedure continued perfusing the mouse, slicing the brain and staining it. Finally, the slices were scanned using the fluorescent confocal microscope.

**Results:** The resulting images presented labeled cells in all brain areas that sent inputs to collicular neurons that are projecting to LP. The main nuclei identified were the Periaqueductal gray, the primary visual cortex and the Substantia nigra, suggesting their modulatory role in freezing responses.

**Conclusion:** The main areas labeled are sending excitatory projections to SC to reinforce the freezing behavior. Also, Ntsrl-GN209-Cre mice used in combination with flox-HSV for the first injection restricted more the viral tracing, specifically to the Ntsrl+ Wild-field neurons of SC which were already known that project to LP. The results were not completely consistent with the non-flox-HSV injections but the main nuclei named above were also labeled. These results suggest that the flox-HSV is necessary to exclude nonspecific labeling of projections from SC-LGN.

**Acknowledgements:** The exposed project was done in Karl Farrow's laboratory, at NERF (Neuro-Electronics Research Flanders) in Leuven, Belgium. It was a Bachelor's thesis, supported by both Katholieke Universiteit Leuven and University of Barcelona.

<http://dx.doi.org/10.1016/j.pbj.2017.07.076>

## PS048

### The influence of antipsychotics therapy and sociodemographic characteristics on cognitive performances in acute phase of schizophrenia



Milica Erdevički\*, Nataša Jovičić

*Medical Faculty of Novi Sad*

E-mail address: [mimaerdevicki1@gmail.com](mailto:mimaerdevicki1@gmail.com)

(M. Erdevički).

**Aim:** The main purpose of this research was to examine the influence of sociodemographic characteristics (gender, age, level of education, heredity, alcohol and psychoactive substances), and the effect of different therapies on cognitive capabilities of patients diagnosed with schizophrenia.

**Introduction:** Schizophrenia, as one of the most common psychiatric diseases, is characterized by generalized cognitive damage with various degrees and in all domains of cognitive functioning. Cognitive dysfunction is one of the main causes of poor social and professional functioning for patients with schizophrenia.

**Methods:** The research involved 50 patients with acute phases of schizophrenia from the Psychiatric Clinic in Novi Sad. The primary instrument for the research was the standardized test for examination of cognitive impairments, Mini-Mental Scale Examination (MMSE).

**Results:** Acquired data correlated with MMSE score, noting the degree of cognitive impairments in patients, particularly significant with relation to age and duration of illness. Gender, level of education and type of used antipsychotics were not significantly correlated with MMSE score.

**Conclusion:** During this research it is found that aging and longer illness duration bear significant correlation to higher levels of cognitive impairment.

<http://dx.doi.org/10.1016/j.pbj.2017.07.077>

## PS190

### Voluntary inhibition of saccadic eye movements: EEG study



A. Fedotova\*, M. Slavutskaya

*Lomonosov Moscow State University, Department of Higher Nervous Activity, Russia*

E-mail address: [fedotova.brain@gmail.com](mailto:fedotova.brain@gmail.com)  
(A. Fedotova).

**Aim:** The aim of our study was to find out EEG markers of inhibitory control in human.

**Introduction:** The voluntary inhibition is an important component of cognitive control. It is strong in healthy adults and weak in people with schizophrenia. The cortical mechanisms of inhibition are associated with event-related potentials (ERPs). In the case of a saccadic response some new EEG correlates of inhibition could be found.

**Methods:** Sixteen healthy right-handed subjects (18–22 years) participated in the study. We used a modified “Go/No go delay” paradigm with long interstimulus interval (2800–3000 ms). The task involved two types of target stimuli (“Go”, “No go”) with 50% probability. EEG and saccades were recorded simultaneously. ERPs were determined by means of coherent averaging relative to target stimulus onset. The EEG brain mapping was used to depict spatial dynamics of P1.

**Results:** P1 peak latency was 90–140 ms and tended to increase in cases of inhibition (by  $6 \pm 0.5$  ms,  $p < 0.05$ ). In the “No go” situation P1 amplitude was significantly lower than that in case of “Go” stimulus presentation (by  $3.3 \pm 0.7$  mV,  $p < 0.05$ ). Regardless of the place where “No go” stimulus appeared, P1 amplitude was significantly higher on the right hemisphere, that is known to be the dominant one for inhibitory control. The EEG mapping data demonstrate the “bottom-up” spreading of P1 foci in “No go” conditions. It also indicates inhibitory processes.

**Conclusion:** The spatiotemporal parameters of P1 component in “Go/No go delay” paradigm reflect inhibitory processes. Therefore, P1 can be used as EEG marker of inhibitory violations in the clinical research. Our current research involves as subjects the patients with schizophrenia and ultra-high risk patients, as they demonstrate weakened the inhibitory processes. The data would contribute to the reliable diagnostics of schizophrenia at its early stages and to the plausible correction of cognitive impairments.

**Acknowledgements:** I would like to express my sincere gratitude to my supervisor D.Sc. in Biology Maria V. Slavutskaya.

<http://dx.doi.org/10.1016/j.pbj.2017.07.078>

### PS135

#### Factors influencing the outcome of endovascular embolization of anterior communicating artery aneurysms



I. Kucybala\*, K. Krupa, J. Polak, J. Wnuk

Jagiellonian University Medical College, Cracow,  
Poland

E-mail address: [iwona.kucybala@gmail.com](mailto:iwona.kucybala@gmail.com)  
(I. Kucybala).

**Aim:** The aim of the study was to assess the influence of morphologic parameters of anterior communicating artery aneurysms and the method of embolization on the success rate of procedure.

**Introduction:** Endovascular embolization of anterior communicating artery aneurysms is currently considered as primary management tool and the improvement of procedural success rate is crucial.

**Methods:** Treatment process of 109 patients undergoing endovascular embolization of anterior communicating artery aneurysm was retrospectively analysed. All procedures were performed between August 2006 and December 2016 in Department of Interventional Radiology of University Hospital in Cracow (Poland).

The mean age of patients was  $56.7 \pm 15.2$  years (range 28–91), 50.5% of patients were female. Used methods of embolization: coiling alone, balloon-assisted coiling, stent-assisted coiling, Y-stenting + coiling. Evaluated morphologic parameters: width of the neck, maximal height, maximal width, shape of aneurysm, dome orientation. The outcome of the procedure was assessed with Raymond–Roy occlusion classification. Data were analysed using chi-square test and Student’s *t*-test. Statistical significance was set at  $p < 0.05$ .

**Results:** Coiling alone significantly improved outcome of embolization considered as better score in Raymond–Roy occlusion classification, compared to other methods ( $1.4 \pm 0.5$  vs.  $1.6 \pm 0.7$ ;  $p = 0.034$ ). In case of irregular aneurysms (85.7% vs. 34.6% (regular aneurysms);  $p = 0.025$ ; OR = 2.615) and those with posterior orientation of the dome (76.9% vs. 36.5% (anterior orientation);  $p = 0.005$ ; OR = 5.810) incomplete embolization (Raymond–Roy class II and III) was significantly more frequent. Within the group of discharged patients, only 33.3% undergone control radiologic examination – 40.7% conventional angiography, 59.3% MR angiography. In that group, 81.5% of aneurysms had better or the same class in Raymond–Roy classification and 18.5% had worse outcome. We did not discovered any statistically significant factor contributing to that phenomenon.

**Conclusion:** Coiling alone is the most efficient method in terms of the aneurysm occlusion rate. Irregular shape of the aneurysm and posterior orientation of the dome significantly hinder the embolization of aneurysm.

<http://dx.doi.org/10.1016/j.pbj.2017.07.079>

### PS097

#### Antidepressive potential of aqueous extract of common vervain (*V. officinalis* L. Verbenaceae) and molecular docking studies of its main components as potential antidepressive agents



N. Lasica<sup>1,\*</sup>, V. Raicevic<sup>2</sup>

<sup>1</sup> Department of Pharmacology, Toxicology and Clinical Pharmacology, Faculty of Medicine, University of Novi Sad, Serbia

<sup>2</sup> Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, Serbia

E-mail address: [nebojsa.lasica@gmail.com](mailto:nebojsa.lasica@gmail.com)  
(N. Lasica).

**Aim:** Assessment of antidepressive effect of aqueous extract (AE) of common vervain and its main constituent – verbascoside and elucidation of underlying mechanism of action.

**Introduction:** Common vervain is a plant used in traditional medicine. Its AE contains a vast number of compounds, hence its significant pharmacological potential.

The monoamine hypothesis is the central theory of depression, and a majority of conventional antidepressants act on the monoaminergic system.

**Methods:** Experiments were conducted on Swiss albino sexually mature male mice. There were 6–8 animals in each of 5 subgroups (imipramine; fluoxetine; two different doses of AE – AE I, II; and VS;). Forced Swimming Test (FST) and Tail Suspension Test (TST) were used to assess the antidepressive effect.

Molecular docking experiments were performed using the programme AutoDock 4.2, with 3D structures of crystallized proteins from the PDB database and 3D structures of ligands generated by the software Avogadro 2.0.8.0.