

**Conclusions:** The present study offers preliminary evidence for the adoption of i-ECO (integrated-Explainability through Color Coding) in fMRI analyses during rest in the Psychiatric field.

**Disclosure:** No significant relationships.

**Keywords:** ReHo; Eigenvector Centrality; fMRI; fALFF

## EPP0262

### The effect of antidepressant treatment on white matter integrity in Major Depression

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**Introduction:** White matter abnormalities have been identified in major depressive disorder (MDD). Although several diffusion tensor imaging studies found decreased fractional anisotropy (FA) in MDD, the effect of antidepressants (AD) treatment on white matter integrity has been insufficiently studied.

**Objectives:** We sought to examine the effect of AD treatment of MDD on white matter, using DTI, in responders compared to nonresponders.

**Methods:** We included 25 individuals with MDD (HAMD  $\geq 20$ ) without inflammatory, unstable medical/neurological conditions or prolonged duration ( $> 1$  year), or AD or anti-inflammatory treatment  $\geq 1$  week preceding first evaluation. Evaluation before treatment and at 16 weeks included depression rating scales, a cognitive battery, inflammatory markers and MRI. Desvenlafaxine was initiated at 50mg with a possible increase to 100mg at 8 weeks.

**Results:** Changes included: increased volume in responders in the right Inferior Fronto-Occipital fasciculus ( $p=0.0315$ ) and Superior Longitudinal Fasciculus part 3 ( $p=0.0050$ ); in remitters in the right Inferior Fronto-Occipital fasciculus ( $p=0.0359$ ) and Superior Longitudinal Fasciculus part 2 ( $p<0.05$ ) and 3 ( $p=0.0481$ ); decreased volume in responders in the left Superior Longitudinal Fasciculus part 1 ( $p=0.0147$ ) and left Corona Radiata ( $p<0.05$ ); and in remitters in the left Superior Longitudinal Fasciculus part 1 ( $p=0.0109$ ) and the Corpus Callosum part 5 ( $p<0.05$ ); decreased FA in the right Cortico Spinal Tract in remitters ( $p=0.0175$ ) and responders ( $p=0.0272$ ), and an increase in FA in the left Uncinate Fasciculus in nonremitters ( $p=0.0493$ ). These results lose significance following Bonferroni correction.

**Conclusions:** Overall, AD treatment of MDD was not associated with significant changes in FA, whole brain, or specific tract volume in this study.

**Disclosure:** This research was funded by Pfizer Canada.

**Keywords:** Neuroimaging; Depression; antidepressant; DTI

## EPP0263

### CLINICAL CASE “I finally woke up, it seems like a miracle”

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**Introduction:** Clinical case about a 62 year old patient, diagnosed with mixed anxiety-depressive disorder. In current treatment with Paroxetine, Clorazepate and Trazodone. She presents low spirits secondary to a neurological process (stroke + amyloid angiopathy+ epilepsy+ cognitive impairment) and difficulties in performing daily activities. Her daughter reports that she is totally dependent, she spends the whole day in bed. On examination we observe a dull mood, without emotional reactivity. Lack of motivation. Psychomotor slowness. Significant cognitive impairment with difficulties in performing daily activities. Mnestic faults.

**Objectives:** Clinical case shows radiological and cognitive improvement with vortioxetine

**Methods:** Last diagnoses: August 2020: HSA OF THE FRONTAL AND PARIETAL GROOVES RIGHTS September 2020: SYMPTOMATIC FOCAL EPILEPSY SECONDARY TO LEFT FRONTAL-PARIETAL INTRAPARENCHIMATOUS HEMATOMA December 2020: MYELOID ANGIOPATHIA February 2021: SUBARACHNOID HEMORRHAGE March 2021: DEPRESSIVE DISORDER SECONDARY TO MEDICAL ILLNESS - MODERATE COGNITIVE IMPAIRMENT

**Results:** Spectacular improvement in mood and cognitive deficit. The family reports that after 5 days they noticed the change. They find her more lively, she has returned to doing housework and is autonomous for day-to-day life. She has regained her memory and performed calculation exercises on a daily. The patient says that she has returned to being her usual self, “before I felt like a mummy and now I have finally woken up, it seems like a miracle”.

**Conclusions:** It has improved much with change of antidepressant, from paroxetine to vortioxetine in patient who show in cranial MRI: New-onset lesion in the right frontal lobe attributable and subarachnoid hemorrhage located in convex furrows, radiological findings in favor of amyloid angiopathy

**Disclosure:** No significant relationships.

**Keywords:** MYELOID ANGIOPATHIA; SUBARACHNOID HEMORRHAGE; DEPRESSIVE DISORDER SECONDARY; MODERATE COGNITIVE IMPAIRMENT

## EPP0264

### Resting-state EEG networks characterized by intramodular and global hyperconnectivity in depressive sample

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**Introduction:** Depression is characterized by a pattern of specific changes in the network organization of brain functioning.

**Objectives:** We researched a graph structure specificity in a depressive student sample by analyzing resting-state EEG. All possible combinations of graph metrics, frequency bands, and sensors/sources levels of networks were examined.

**Methods:** We recorded resting-state EEG in fourteen participants with high Beck Depression Inventory score ( $24.4 \pm 9.7$ ;  $20.4 \pm 1.5$  y.o.; 14 females; 1 left-handed) and fourteen participants with a low score ( $6.8 \pm 3.7$ ;  $21.3 \pm 2.0$  y.o.; 8 females; 1 left-handed). We applied weighted phase-lag index (wPLI) to construct functional networks at sensors and sources levels and computed characteristic path length (CPL), clustering coefficient (CC), index of modularity (Q), small-world index (SWI) in 4-8, 8-13, 13-30, and 4-30 Hz frequency bands. We used Mann-Whitney U-test ( $p < 0.05$ ) to investigate between-group differences in the graph metrics.

**Results:** The depressive sample was characterized by increased CC and Q in the 4-30 Hz band networks and decreased CPL in the beta-band network (sensors-level for CPL and CC, and sources-level for Q).

**Conclusions:** Elevated CC and Q may relate to an increase of intramodular connectivity, and CPL reduction reflects the global connectivity increasing. We hypothesize that intramodular hyperconnectivity could explain the rise of global functional connectivity in participants with depressive symptoms. *Funding:* This research has been supported by the Interdisciplinary Scientific and Educational School of Lomonosov Moscow State University 'Brain, Cognitive Systems, Artificial Intelligence'.

**Disclosure:** No significant relationships.

**Keywords:** Depression; Resting-state EEG; Connectivity

## EPP0265

### Schizotypal Traits are Associated with Decreased Functional Connectivity between Medial Prefrontal Cortex and Cerebellum in a Non-clinical Sample

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**Introduction:** Schizotypy is associated with increased vulnerability to schizophrenia spectrum disorders. Therefore, investigation of its brain correlates seems prominent for better understanding of schizophrenia-spectrum continuum as well as for development of biological treatments for schizotypal personality disorder. Functional alterations of prefrontal cortex (PFC) and their associations with clinical symptoms are well-known to exist in schizophrenia. However, their relevance to schizotypy remains unclear.

**Objectives:** The aim of the study was to check for associations between schizotypal traits in a non-clinical sample and whole-brain functional connectivity (FC) of lateral as well as medial PFC (IPFC and mPFC, respectively).

**Methods:** Eighty-two healthy individuals (52 females, mean age  $24.8 \pm 5.48$ ) filled out the Schizotypal Personality Questionnaire (SPQ-74) and underwent resting-state fMRI (3T). Seeds in IPFC and mPFC were taken from frontoparietal and default mode networks (atlas by Yeo et al., 2011). We analyzed correlations between four schizotypal factors (cognitive/perceptual, paranoid,

negative, and disorganization; Stefanis et al., 2004) and whole-brain FC of the seeds (statistical threshold:  $p < .001$  voxelwise;  $p [FDR] < .05$  clusterwise).

**Results:** Cognitive/perceptual factor ('Odd beliefs/magical thinking' and 'Unusual perceptual experiences' SPQ-74 subscales) is negatively correlated to FC of bilateral mPFC with a cluster in the right cerebellum (Crus 1, 2).

**Conclusions:** Prefrontal-cerebellar dysconnectivity may be one of the neurobiological factors underlying positive-symptoms-like schizotypal traits in non-clinical subjects. To some extent, it coincides with the data on associations between functional features of these brain structures and positive symptoms in schizophrenia (Pinheiro et al., 2021; Goghari et al., 2010).

**Disclosure:** The study was supported by RFBR Grant 20-013-00748.

**Keywords:** resting-state fMRI; schizotypy; SPQ-74

## EPP0266

### Organic lesions and Psychiatry: "A sample on a pendant"

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**Introduction:** Brain lesions may induce psychiatric symptoms in some cases. Imaging tests are important to make a differential diagnosis, and therefore initiate an appropriate treatment.

**Objectives:** Presentation of a clinical case about a patient with psychiatric symptoms who presented an organic lesion.

**Methods:** Bibliographic review including the latest articles in Pubmed about psychiatric symptoms induced by organic lesions.

**Results:** We present a 51-year-old male patient, with adequate previous functionality, who attended psychiatric consultations due to changes in his character, with delusional mystical and megalomaniac ideation, verbiage, hypoprosexia, memory loss and insomnia (diagnosed with Bipolar Disorder type II, hypomanic episode). Eventually, a brain computed tomography scan was performed, in which meningioma was visualized. The patient underwent surgery, and he asked to keep a sample of his tumor to always carry it with him on a pendant. Psychiatric symptoms induced by organic lesions are highly variable, depending on the location and size of the lesion, and they may be the first and/or only symptom of a meningioma (up to 21% according to various studies), so it is important to perform imaging tests in some cases. At this time, the patient is under follow-up, he has remained euthymic and stable, and he refuses to take psychopharmacological medication.