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**Introduction** Recent studies have shown that it is important to understand the brain mechanism specifically by focusing on the common and unique functional connectivity in each disorder including depression.

**Objectives** To specify the biomarker of major depressive disorder (MDD), we applied the sparse machine learning algorithm to classify several types of affective disorders using the resting state fMRI data collected in multiple sites, and this study shows the results of depression as a part of those results.

**Aims** The aim of this study is to understand some specific pattern of functional connectivity in MDD, which would support diagnosis of depression and development of focused and personalized treatments in the future.

**Methods** The neuroimaging data from patients with major depressive disorder (MDD,  $n = 100$ ) and healthy control adults (HC:  $n = 100$ ) from multiple sites were used for the training dataset. A completely separate dataset ( $n = 16$ ) was kept aside for testing. After all preprocessing of fMRI data, based on one hundred and forty anatomical region of interests (ROIs), 9730 functional connectivities during resting states were prepared as the input of the sparse machine-learning algorithm.

**Results** As results, 20 functional connectivities were selected with the classification performance of Accuracy: 83.0% (Sensitivity: 81.0%, Specificity: 85.0%). The test data, which was completely separate from the training data, showed the performance accuracy of 83.3%.

**Conclusions** The selected functional connectivities based on the sparse machine learning algorithm included the brain regions which have been associated with depression.

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## EV827

### Keyppy – An open source library for EEG microstate analysis

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The brain's electric field configuration reflects its momentary, global functional state. The fluctuations of these states can be analyzed at millisecond resolution by the EEG microstate analysis. This analysis reportedly allowed the detection of brain state duration, occurrence, and sequence aberrations in psychiatric disorders such as schizophrenia, dementia, and depression. Several existing software solutions implement the microstate analysis, but they all require extensive user-interaction. This represents a major obstacle to time-efficient automated analyses and parameter exploration of large EEG datasets. Scriptable programming languages such as Python provide a means to efficiently automate such analysis workflows.

For this reason, I developed the KEY EEG Python Library keyppy. This library implements all steps necessary to compute the microstate analysis based on artefact free segments of EEG. It includes functions to carry out the necessary preprocessing (data loading, filtering, average referencing), modified k-means clustering based microstate identification, principal component based mean com-

putation (across recording runs, conditions, participants, and or participant groups), and to retrieve the microstate class based statistics necessary to compare microstate parameters between groups and/or conditions. Keyppy is an open source library and freely available from <https://www.github.com/keyinst/keyppy>.

Keyppy provides a platform for automated microstate analysis of large-scale EEG datasets from psychiatric patient populations and their comparison to healthy controls. It is easily applicable and allows efficient identification of deviant brain states in clinical conditions.

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## EV828

### Agensis of the corpus callosum in a patient with bipolar disorder

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**Background** The corpus callosum (CC) is the largest white matter structure in the brain, which plays a crucial role in interhemispheric communication. Agensis of the CC is a rare development anomaly, with unknown cause. It could be asymptomatic or associated with mental retardation and neurologic symptoms. Some case reports, post-mortem studies and image studies have linked thickness reduction and agensis of CC with psychotic symptoms, mainly in schizophrenia patients. Lately, anatomical abnormalities in the CC have been reported in patients with Bipolar Disorder (BD).

**Case report** A 52-year-old woman was brought to the emergency room by the authorities after being physically aggressive to her 13-year-old daughter and inappropriate behavior in public. At the emergency department her mood was elevated with emotional lability, dispersible attention, slight increase of motor activity, pressured and difficult to interrupt speech, grandious and self-referent delusional ideas.

Her past history revealed hippomaniac episodes characterized by periods of excessive shopping and hyperphagia. In 2008, she had a major depressive episode.

Head CT-SCAN revealed agensis of CC. She received the diagnosis of Manic Episode with mixed features and was treated with valproic acid, flurazepam and olanzapine.

**Conclusion** This case reinforces the fact that changes in CC, probably due to deficiency in myelination, could have a crucial importance in the pathophysiology of Bipolar Disorder.

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

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## Obsessive-compulsive disorder

### EV831

#### The nose – A case report of body dysmorphic disorder and a literature review

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**Introduction** Body Dysmorphic Disorder (BDD) is relatively common disorder. Patients with delusional beliefs seem to show greater morbidity (more suicidal attempts and drug abuse or dependence) and less likelihood of receiving treatment.

**Objectives and aims** In this study, we intended to report a case of BDD followed in psychiatric consultation from 2 years ago, and to make a review of the literature, namely presentation, treatment and prognosis of BDD.

**Methods** We conducted a description of a BDD case and a research using “Body Dysmorphic Disorder” keywords on Pubmed.

**Results** J.F., 45 years old, unemployed, living with his father, referred to the Psychiatric consultation by his GP. The disorder started in the adolescence with an excessive preoccupation with hair loss and nose length, but in early adulthood these concerns became more important. Around 30 years old he was followed in Psychiatry but abandoned. Years later he underwent nose plastic surgery. He tried underwent other nose surgeries, but was refused. He was advised to look for psychiatric care. From the initial observation I highlight the appearance (thin, with a wig, adhesive tape connecting the tip of the nose to the forehead pulling up the nose), delusional ideas regarding the appearance of the nose, overvalued hypochondriac ideas, and no insight for the disease. The patient was reluctant in taking psychotropic drugs. He was referred to day hospital, which he attended with great irregularity.

**Conclusions** BDD is a disorder with poor prognosis, especially when delusional variant is present, probably in relation to the lack of insight.

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

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#### EV832

### From obsessivity to bipolarity and vice versa. A literature review

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**Introduction** The prevalence of obsessive symptoms in bipolar patients is currently under discussion. Last years, different cases of antidepressant-induced mania and hypomania in patients with OCD have been described.

Several authors have reported that patients with OCD and bipolar disorder have more depressive episodes than patients with only OCD.

**Objective** To know the relationship between OCD and other bipolar spectrum disorders.

**Method** Bibliographical review on comorbidity between obsessive symptoms and bipolarity.

**Results** Some longitudinal analysis have shown that patients firstly diagnosed with OCD have an increased risk for subsequent diagnosis of all other conditions, especially for bipolar and schizoaffective disorder, for those whose risk is of up to 13 times higher. The handling of a patient with bipolar disorder and OCD implies some difficulty, because of the main treatment of anxiety disorders, the antidepressants, alters the course of manic-depressive illness, accelerating cycles.

**Conclusions** OCD is etiologically related to bipolar spectrum disorders and schizophrenia. Therefore, it is necessary to continue the investigation of possible involved genes and approaches for clinical practice.

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

#### Further readings

Cederlöf, M., Lichtenstein, P., Larsson, H., Boman, M., Rück, C., Landén, M., & Mataix-Cols, D. (2014). Obsessive-compulsive disorder, psychosis, and bipolarity: a longitudinal cohort and multi-generational family study. *Schizophrenia bulletin*, sbu169.

Vega Davila, D. (2010). La complejidad de la comorbilidad: Trastorno Bipolar y Trastorno Obsesivo Compulsivo. *Psiquiatria*. com, 14.

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#### EV833

### Dual target repetitive transcranial magnetic stimulation in the treatment of comorbid obsessive-compulsive disorder in patients with anorexia nervosa: Preliminary results of two case reports

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**Introduction** Obsessive-compulsive disorder (OCD) is a frequently reported comorbid disorder (20–30%) in patients with anorexia nervosa (AN). Increasing evidence suggests that repetitive transcranial magnetic stimulation (r-TMS) may be effective in the treatment of refractory OCD and to a lesser extent in AN. Hereby, different target areas: supplemental motor area (SMA) and orbitofrontal cortex (OFC) and dorsolateral prefrontal cortex in AN. We report two patients with enduring AN and comorbid treatment resistant OCD treated with r-TMS.

**Methods** Both female patients (34 and 26 years respectively) were hospitalized at the Eating Disorder Unit at the Ghent University Hospital. Treatment responses were evaluated with Yale Brown Obsessive Compulsive Scale (Y-BOCS) and weight gain. Inhibitory continuous thurst stimulation (cTBS) of the SMA followed by cTBS of the OFC was conducted during 20 sessions, 5 sessions a week, during 4 weeks. Stimulation intensity was respectively 100% and 80% of the motor threshold.

**Results** After cTBS treatment Y-BOCS score of both patients decreased (31 to 24 and 31 to 23 respectively). Only one patient showed a 10% increase of weight. The treatment was well tolerated. No significant side effects were reported.

**Conclusion** Treatment resistant comorbid OCD in patients with AN may be successfully treated with cTBS.

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

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#### EV836

### Skin picking – A case report

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**Introduction** Compulsive skin picking and trichotillomania are both impulse control disorders, characterized by the need or urge to touch, scratch, scrub, friction, rub, bite, press or dig in the skin; it is often an answer to minimum skin defects or to mild acne. The resulting tissue damage can be moderate to severe.

**Objective** Case report of a woman with Skin picking resistant to treatment.

**Methods** Clinical observation.

**Results** 43-year-old woman who was admitted in emergency in June 2014 because of her skin lesions. After observation by Dermatologist she was sent to the Psychiatric due to injuries caused by her. She referring compulsion to scratch, bite and tear the skin