

taken into consideration. Furthermore, good therapeutic outcomes and lack of adverse events in modern open-label trials utilising psychedelic therapy for neuropsychiatric disorders is encouraging. Advances in the understanding of the neurobiology of FND, as well as further modern clinical research into the therapeutic utility of psychedelics, may help to determine whether psychedelics offer a feasible, safe and effective treatment for FND.

22 WHOLE-BRAIN FUNCTIONAL CONNECTIVITY BASED ON THE GRAPH THEORY ANALYSIS IN PSYCHOGENIC NON-EPILEPTIC SEIZURES (PNES)

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Objective Despite being the subject of many studies over the past two decades, mechanisms underlying psychogenic non-epileptic seizures (PNES) are still poorly understood. We tried to address this issue by utilizing brain functional connectivity analysis to identify brain regions with abnormal activities in patients with PNES. In a case-control study, we performed graph based network analysis, a robust technique that determines the organization of brain connectivity and characterizes topological properties of the brain networks.

Methods Twelve individuals with PNES and twenty-one healthy control subjects were examined. Resting state functional magnetic resonance imaging (rsfMRI) was acquired. All subjects were asked to keep their eyes open during the scanning process. The rsfMRI analysis consisted of pre-processing, extracting the functional connectivity matrix (FCM) based on the AAL atlas, threshold for binary FCM, constructing a graph network from FCM and extracting graph features, and finally statistical analysis. For all cortical and subcortical regions of the AAL atlas, we calculated measures of 'degree,' which is one of the features of the graph theory. Results: Our results revealed that, as compared to the healthy control subjects, patients with PNES had a significantly lower degree in some brain regions including their left and right insula (INS), right Putamen (PUT), left and right Supramarginal gyrus (SMG), right Middle occipital gyrus (MOG), and left and right Rolandic operculum (ROL). In contrast, degree was significantly greater in two regions [i.e., right Caudate (CAU) and left Inferior frontal gyrus orbital part (ORBin)] in patients with PNES compared to that in controls.

Conclusion Our findings suggest that functional connectivity of several major brain regions are different in patients with PNES compared with that in healthy individuals. While there is hypoactivity in regions important in perception, motor control, self-awareness, and cognitive functioning (e.g., insula) and also movement regulation (e.g., putamen), there is hyperactivity in areas involved in feedback processing (i.e., using information from past experiences to influence future actions

and decisions) (e.g., caudate) in patients with PNES. The observation that individuals with PNES suffer from a wide range of abnormal activities in functional connectivity of their brain networks is consistent with the fact that PNES occur in a heterogeneous patient population; no single mechanism or contributing factor could explain PNES in all patients.

23 LIMBIC NEUROCHEMICAL CHANGES IN PATIENTS WITH FUNCTIONAL MOTOR SYMPTOMS

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Objectives To assess by magnetic resonance spectroscopy (MRS) the N-Acetyl- aspartate, myo-inositol, choline, sum of glutamate and glutamine (Glx), and creatine (Cr) content in the anterior cingulate cortex (ACC)/medial prefrontal cortex (mPFC) and in the occipital cortex (OCC) (control region) in patients with functional motor symptoms (FMS) and healthy controls, and to determine whether neurochemical limbic changes as estimated by MRS correlate with FMS-related motor symptom severity, alexithymia, anxiety, depression and quality of life.

Methods This case-control study enrolled 10 patients with FMS and 10 healthy controls. Participants underwent MRS and were tested with the Mini Mental State Examination, Hamilton Depression Rating Scale, Hamilton Anxiety Rating Scale, 20- Item Toronto Alexithymia Scale and EuroQol 5D.

Results In patients with FMS, MRS showed increased Glx/Cr in the ACC/mPFC but normal content in the control OCC. All the other metabolites tested were normal in both regions. The increased Glx/Cr content in the ACC/mPFC correlated with alexithymia, anxiety and severity of symptoms.

Conclusions The abnormal limbic Glx increase could have a crucial pathophysiological role in FMS possibly by altering limbic-motor interactions, ultimately leading to abnormal movements.

24 AN ANALYSIS OF SENTIMENT AND PUBLICITY OF FUNCTIONAL NEUROLOGICAL DISORDER AND NON-EPILEPTIC ATTACK DISORDER ON TWITTER

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Objectives Twitter may provide a platform for clinicians and allied health professionals to publicise Functional Neurological Disorder (FND) and Non-Epileptic Attack Disorder (NEAD), and also provides a platform for patients and their communities to discuss the disorders. The prevalence and sentiment of discussions of these disorders have not been reported before now. We wrote a program to collect and analyse 'Tweets' about the subjects in their sentiment, connectivity and content.

Methods Preliminary searches and graph analyses identified the most relevant search terms. Tweets were collected automatically, along with available metadata. Sentiment analysis was performed using natural language processing with valence