EPV0896

Frontal lobe tumor misdiagnose. A case report.

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Introduction: Space occupying lesions compromising frontal lobes usually may produce in the first place psychiatric symptoms such as progressive change of personality and/or symptoms suggestive of depressive episodes. Thus they can be misdiagnosed and mistreated.
Objectives: A case report is presented as well as an updated review of frontal lobe tumor diagnosis and treatment literature.
Methods: We present the case of a 45 years-old male patient with no relevant medical history who arrives at the mental health center due to behavioral disorders, depressive mood, workplace absenteeism and personal hygiene neglect in the last 3 months.
Results: Since the clinical picture was compatible with depressive disorder the patient was treated with psychotherapy and antidepressant drugs with no remission. Due to the treatment absence of response he attends emergency services where he is performed a craneal tomograpy (CT) where a right frontal lobe tumor (FLT) is observed.
Conclusions: In early stages FLT are sometimes presented as psychological mood or anxiety disorders without accompanying neurologic deficits. Thus, mental health professionals should be aware that psychological symptoms might be a presentation of organic disease of the brain and in some cases (e.g. middle-aged patients with affective symptoms with no previous mental health history) organic screening and hence brain imaging should be considered.

Disclosure: No significant relationships.
Keywords: depressive mood; Frontal lobe tumor; craneal tomography

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Beta-band network modularity in resting-state EEG negatively correlates with level of intelligence

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Introduction: Recent studies mostly focus on the links between measures of alpha-band EEG networks and intelligence. However, associations between wide frequency range EEG networks and general intelligence level remain underresearched.

Objectives: In this study in a student sample we aimed to correlate the intelligence level and graph metrics of the sensors/sources-level networks constructed in different frequency EEG bands.
Methods: We recorded eyes-closed resting-state EEG in 28 healthy participants (21.4±2.1 y.o., 18 females, 1 left-handed). The Raven's Standard Progressive Matrices Plus ('SPM Plus', 60 figures) was used as an intelligence measure. We constructed networks for all possible combinations of sensors/sources-level and 4-8, 8-13, 13-30, or 4-30 Hz frequency bands using Weighted Phase-Lag Index (wPLI), and calculated four graph metrics (Characteristic Path Length, Clustering Coefficient, Modularity, and Small World Index) for each network. Spearman correlation (with Holm-Sidak correction) was applied to characterize the relations between the SPM Plus scores and all the network metrics.
Results: SPM Plus scores varied from 35 to 57 (mean 45.3±4.2), and the intelligence level negatively correlated with Modularity in beta-band ($r = -0.63$, $p_{corr} = 0.0253$).
Conclusions: High modularity may reflect relatively high segregation, but not integration, of networks (Girn, Mills, Christoff, 2019). Accordingly, our findings may shed light on the neural mechanisms of the general inefficiency of global cognitive processing in the case of intellectual decline related to different mental disorders. *Funding: This research has been supported by the Interdisciplinary Scientific and Educational School of Lomonosov Moscow State University 'Brain, Cognitive Systems, Artificial Intelligence'.*

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Development of human brain neuroimmune system under influence of alcohol

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Introduction: Exposure to alcohol causes imbalances in neuroimmune function and impaired brain development.
Objectives: Alcohol activates neuroimmune molecules, expressed and secreted by glial cells in the brain, alter neuronal function and stimulate alcoholic behavior.
Methods: The study involved women aged 25-41 years-did not drink alcohol 1 month before and during pregnancy – 1-st group; women with I-II degree of alcoholism 3-13 years – 2-nd group. Embryonic material were obtained 8-15 weeks of igestation. 2-nd group were divided into subgroups. Group Alcohol (A)-alcoholic women,s embrious, included 2 subgroups: A1-embryos 8-9 weeks,