

complaints); 3) a short version of the quality of life assessment (SF-12, 2000). All patients were examined dynamically by a psychiatrist.

Results: The quality of life was assessed during treatment, when the degree: improves, remains unchanged, worsens. Different dynamics were noted with different tumor morphology, volumes of surgical intervention, and course of recovery after surgery. Thus, after surgery, the number of patients with severe disorders in large and giant tumors, especially with spread to the third ventricle (according to the Karnofsky and GDR scales), increased, respectively, they were found to have a low degree of “quality of life”. The use of questionnaires (SF-12) showed the inappropriateness of their use, since 33-78% of patients (with different tumor morphology) showed personality changes, they were not fully aware of their condition. Assessment by scales revealed the following features: 1) A large sample, no universal; 2) Mostly self-questionnaires, which is questionable due to the high percentage of patients with lack of criticality, inadequate assessment of the situation and themselves; 3) Conducted by different specialists; 4) To interpret the results, an assessment by a psychiatrist is necessary. Patients with pituitary tumors were divided into: 1) with pronounced health problems - sufficient quality of life; 2) with minimal symptoms - deeply “unhealthy”.

Conclusions: In assessing the “quality of life”, the primary factors are not the symptoms of the disease and their manifestations, but the perception of oneself and the ability to feel “happiness”. In the case of pituitary tumors, non-specific scales and self-questionnaires should be used with reservations; for the adequacy of the interpretation of the results, it is worth comparing the data with the psychiatric report.

Disclosure of Interest: None Declared

EPV1094

Contribution of EEG in analyzing the intraregional « disconnectivity » in schizophrenia

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Introduction: « Disconnectivity » in schizophrenia seems to be subsequent to abnormalities of the white matter and distorted functional connectivity. That would explain the cognitive impairment, including the slowing of information processing, observed in these patients that could be one of the risk factors for conversion into clinical psychosis and a significant predictor of functional outcome.

Objectives: This study aimed to search for signs of « disconnectivity » in quantitative electroencephalograms (EEG) in schizophrenic patients compared to healthy controls.

Methods: It was a case-controlled study involving 15 schizophrenic patients and 15 healthy controls. The study was carried out at units of Psychiatry Department “C” and Functional Explorations Department Sfax’ hospital in Tunisia. Participants underwent a standard wakefulness EEG recording with a resting state period and a mental calculation test. The spectral density analysis for each

frequency band was studied. The absolute spectral densities (ASD) of the following frequency bands were analyzed at resting state and after calculation moment: delta [0,5 – 3,5 Hz], theta [4 – 7,5 Hz] alpha 1 [8 – 10 Hz] alpha 2 [10,5 – 12,5 Hz] and beta 1 [13 – 20 Hz] in bilateral frontal and occipital regions. The Pearson’s correlation was applied between the two moments in the same region (for the same electrode). Good connectivity was found if $p < 0,05$, the inverse meant « disconnectivity ».

Results: Good connectivity was found for schizophrenics in the frontal region (for alpha1 band in the right one ($r=0,721$; $p=0,002$) and in the left one ($r=0,597$; $p=0,019$), for beta1 band in the left one ($r=0,616$; $p=0,014$), and for theta band in the right one ($r= 0,569$; $p=0,027$) and the left one ($r=0,661$; $p=0,007$)) and in the occipital region (for alpha2 band in the right one ($r=0,726$; $p=0,002$), for beta1 in the right one ($r=0,565$; $p=0,028$), and for theta band in the right one ($r=0,836$; $p<0,001$) and in the left one ($r=0,829$; $p<0,001$)). Disconnectivity was admitted for other bands in the same regions. However, for healthy controls, highly significant correlations ($p<0.001$) were observed in the right and left frontal and occipital regions for all frequency bands.

Conclusions: These results support the « disconnectivity » theory in which it seems that relay neurons connecting the nerve cells between the thalamus and the cortex could not control the thalamic neurons. A dysfunction of these relay neurons, mainly GABAergic, is known as one of the main etiopathogenesis of schizophrenia.

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EPV1095

Involvement of inflammation in pathogenesis of autism spectrum disorders: experimental model of postnatal valproic acid administration

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Introduction: Autism spectrum disorders (ASD) are developmental deviations that cause social, communication and behavioral problems. Valproic acid (VPA) works as an inhibitor of histone deacetylases. One of the presumed causes of ASD development is neuroinflammation. A low-grade inflammatory process in nervous tissue can cause serious disorders, leading to the death of neurons, impaired myelination and anatomical and biochemical changes in brain structures. Currently, there are known inflammatory markers that are detected in the blood and used to assess the level of inflammation in the brain, for example, leukocyte elastase.

Objectives: To investigate the effect of postnatal administration of VPA on the behavioral manifestations of ASD and the activity of leukocyte elastase in blood serum in male white rats.

Methods: The study was performed on male rat pups. The conditions for keeping animals and the experimental procedures used were approved by the Bioethics Commission of Moscow State University (registration No. 12.3 of 17.11.2022). The animals were administrated intraperitoneally with water (H₂O) or VPA at a dose of 150 mg/kg from the 6th to the 12th day of life. The study used standard behavioral tests: weight monitoring from 6-12 days of life, “Social behavior” in the sibling/stranger modification on 55 day. The animals were decapitated on the 57th day. Blood was collected

into tubes with serum separating gel (BD Vacutainer® SST™II Advance), centrifuged at 2000 g, serum was frozen -78°C. The activity of leukocyte elastase in blood serum was measured spectrophotometrically by the rate of hydrolysis of the substrate BOC-Ala-ONp (Biomedical, Inc.).

Results: An important physiological indicator for ASD in the model used is a slowdown in weight gain. As a result of the study, it was revealed that the weight of males after 6 days of VPA administration was lower compared to control individuals ($p = 0.003$). In the “Social Behavior” test, in males who received VPA, the latent period for leaving the starting compartment was significantly longer than in the control ($p = 0.019$); also, experienced males later approached a stranger as if they were a stranger ($p = 0.037$), compared to controls. In this study, the activity of leukocyte elastase in the rat’s blood serum receiving VPA was significantly higher than in control individuals ($p = 0.04$). Similar deviations are observed in patients with ASD.

Conclusions: These results allow us to conclude that the administration of valproic acid to rats in the early postnatal period causes changes in physiological and behavioral characteristic typical for ASD. This confirms the validity of the created experimental model. The increase of leukocyte elastase activity in the rat receiving VPA indicate the role of inflammation in pathogenesis of ASD.

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EPV1098

Reflection of Burnout Severity in a EEG Frequency Pattern

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Introduction: The burnout develops gradually, unnoticed by the person, and its symptoms may appear after several years and leads to serious mental and behavioral changes. The processes underlying burnout are largely unknown due to the lack of specialized studies aimed at identifying specific biomarkers. Based on this, it is necessary to detect the first, critical moment - the first symptoms of burnout.

Objectives: We aimed to examine the EEG frequencies changes relating to severity of Anxiety Tension stage of Emotional Burnout. **Methods:** In this study 752 participants, students and staff of Taras Shevchenko National University of Kyiv (Kyiv, Ukraine) were involved (209 males, mean age = 19.2, 543 females, mean age = 18.28). We used the 84-item Boyko’s Syndrome of Emotional Burnout Inventory to measure the emotional burnout formation. We analyzed separate artefact-free EEG segments in all frequency bands from 0.2 to 45 Hz during resting state (3 min, closed eyes condition). In order to identify the EEG signs of emotional burnout the normalized power spectral densities (PSD) were calculated on the segment from 61 to 70 seconds of recordings.

Results: The revealed burnout-related (Anxiety Tension stage) variables in the spectral characteristics of the EEG characterized by the significant changes in the theta 2 (frontal area and left temporal-parietal cortex), alpha 2 (right parietotemporal cortex) and beta 1 subbands (left frontal-central-right parietal axis).

Conclusions: These data pointed to the influence of Anxiety Tension development mostly on the processes associated with short-term memory and focused attention.

Disclosure of Interest: None Declared

EPV1100

Neuroprotective effect of HLDF-6-H peptide in Parkinson’s disease

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Introduction: The pathogenesis of Parkinson’s disease (PD) is associated with simultaneous damage to the nervous, endocrine and immune systems. Therefore, drugs that have a regulatory effect on all of these systems should be used to treat PD. Similar properties are possessed by the synthetic analogue of fragment 41–46 Human Leukemia Differentiation Factor (Thr-Gly-Glu-Hse-His-Arg-NH₂, HLDF-6-H)

Objectives: To study the effects of HLDF-6-H in an experimental model of PD and its impact on the severity of motor and non-motor symptoms in patients with PD

Methods: The study used a preclinical PD model based on the administration of moderate doses of MPTP toxin (18 mg/kg) and chronic intranasal administration of HLDF-6-H peptide (300 µg/kg) to C57Bl/6 mice. Mice behaviour was assessed in the Grid test and the Forced Swim (FS) test. After 3 weeks of peptide administration, mRNA of neurotrophic factors (BDNF and NGF) and key cytokines (IL-1β, IL-6, IL-10, gamma interferon, tumour necrosis factor α and transforming growth factor β1) was analyzed in five brain regions (striatum, hippocampus, hypothalamus, pituitary gland, cortex). Serum levels of 10 steroids, including testosterone, estradiol, progesterone, and corticosterone, were determined using MS analysis. The activity of inflammatory markers leukocyte elastase (LE) and α1-proteinase inhibitor (α1-PI) was determined using kinetic methods. Patients (24 people) with a disease duration from 1 to 16 years received HLDF-6-H intranasally as part of the balm “Rinohealing” (9-31 µg/kg per day, up to 6 months) in addition to standard pharmacotherapy for PD. The effectiveness of therapy was assessed based on the patients’ subjective assessment of their condition according to the MDS-Unified Parkinson’s Disease Rating Scale (MDS-UPDRS)

Results: HLDF-6-H blocked motor disorders (Grid test) and depressive-like syndrome (FS test) caused by MPTP in mice, restored the level of neurotrophic factors and cytokines in the brain of animals ($p < 0.05$). In the model used, a decrease in the level of estradiol and cortisol in the blood was reversible by the peptide ($p < 0.05$). The development of the inflammatory process under MPTP action is indicated by an increase in the activity of α1-PI,