Objectives: The aim of the study was to investigate the central effects of soluble factors derived from human macrophages, polarized to M2 phenotype (M2-SFs) involved in the mechanisms underlying the editing of depressive-like behavior.
Methods: Human macrophages were polarized polarised to M2 phenotype under serum deprivation conditions. Stress-induced depression-like male mice were undergoing intranasal administration of M2-SFs during 7 days. After which an immunohistochemical analysis was performed assessing the expression of the microglial marker Iba1. The levels of brain-derived neurotrophic factor (BDNF) and cytokines in separate structures of the brain were assessed by ELISA. For histological examination Nissl staining was applied.
Results: Depressive-like behavior editing after the M2-SFs administration was registered against the background of some structural and functional changes in the brain. It was found an increase in the density of pyramidal neurons in the frontal cortex and augmented level of BDNF in this brain structure and also in the hippocampus. After the introduction of the M2-SFs in depressive-like mice the decreased expression of the microglial marker Iba1, accompanied with decreased levels of pro-inflammatory cytokines IL-1β, IL-6, TNF-α, INF-γ in pathogenetically significant structures of the brain was also observed.
Conclusions: The data obtained indicate that the depressive-like behavior-editing effect of M2 macrophage-derived soluble factors is mediated by stimulating neurogenesis, neuroplasticity and reducing neuroinflammation.

Disclosure of Interest: None Declared

EPV1085

Efficacy of Left Prefrontal Transcranial Direct Current Stimulation in Improving Negative Symptoms and Acutely Enhancing Attention Functions

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Introduction: Negative symptoms and cognitive deficits in schizophrenia (SZ) significantly affect patients' quality of life and functionality, but show limited response to antipsychotic treatment.
Objectives: The present study aims to investigate the acute (n=32) and one-month (n=25; active-tDCS:13 vs. sham-tDCS:12) effects of repeated transcranial Direct Current Stimulation (tDCS) on negative symptoms and executive attention in recent-onset SZ.
Methods: In this study, 32 clinically stable SZ patients (age:24.7 ±4.5, 65% male) with a disease duration under 5 years were included in a single-blind, randomized sham-controlled trial. Patients received 10 sessions of either active-tDCS (n=17) or sham-tDCS (n=15) (anode: left dorsolateral prefrontal cortex, DLPFC; cathode: right orbitofrontal region) at 2 mA for 20 minutes, twice daily, across 5 consecutive days and were followed up after the 10th tDCS on day 5 (acute effect), and at weeks 2 and 4. Pre- and post-tDCS assessments included the Brief Negative Symptom Scale (BNSS), Brief Psychiatric Rating Scale (BPRS), Calgary Depression Scale for SZ (CDSS), Global Assessment of Functioning (GAF), Clinical Global Impression Scale, Verbal Fluency Test (VFT), and the Penn Computerized Neurocognitive Battery's Letter N-Back and Continuous Performance Test (CPT). One-way ANCOVA was used to assess between-group changes over time, controlling for pre-tDCS measurements, while mixed-design ANOVA explored time × tDCS-group interactions, followed by repeated measures ANOVA to assess within-group effects. Pairwise comparisons over time within each group were examined using a post-hoc Bonferroni test.
Results: The active-tDCS group showed significant acute improvements in Avolition-Apathy (AA) ($F_{(1,29)}$=13.55, p<0.001, pη^2=0.319) and Expressive Deficit (EXP) ($F_{(1,29)}$=4.66, p=0.039, pη^2=0.138) domains, BNSS-total ($F_{(1,29)}$=25.12, p<0.001, pη^2=0.464), BPRS-General Psychopathology ($F_{(1,29)}$=19.68, p<0.001, pη^2=0.404), CDSS ($F_{(1,29)=}$8.16, p=0.008, pη^2=0.22) scores, VFT-phonemic fluency ($F_{(1,29)}$=11.98, p=0.002, pη^2=0.292) and CPT ($F_{(1,29)}$=5.29, p=0.029, pη^2=0.154) performances compared to sham-tDCS. Time-group interactions were significant in BNSS-AA domain ($F_{(1,21)}$=16.44, p<0.001, pη^2=0.701), BNSS-total ($F_{(1,21)}$=15.77, p<0.001, pη^2=0.693), and BPRS-General Psychopathology ($F_{(1,21)}$=6.42, p=0.003, pη^2=0.479). Following the mixed-design ANOVA, repeated measures analyses showed significant score decreases over time in the active-tDCS, while the sham group showed no significant changes or a slight increase (only for BNSS-total scores) (Fig. 1).

Image 1:

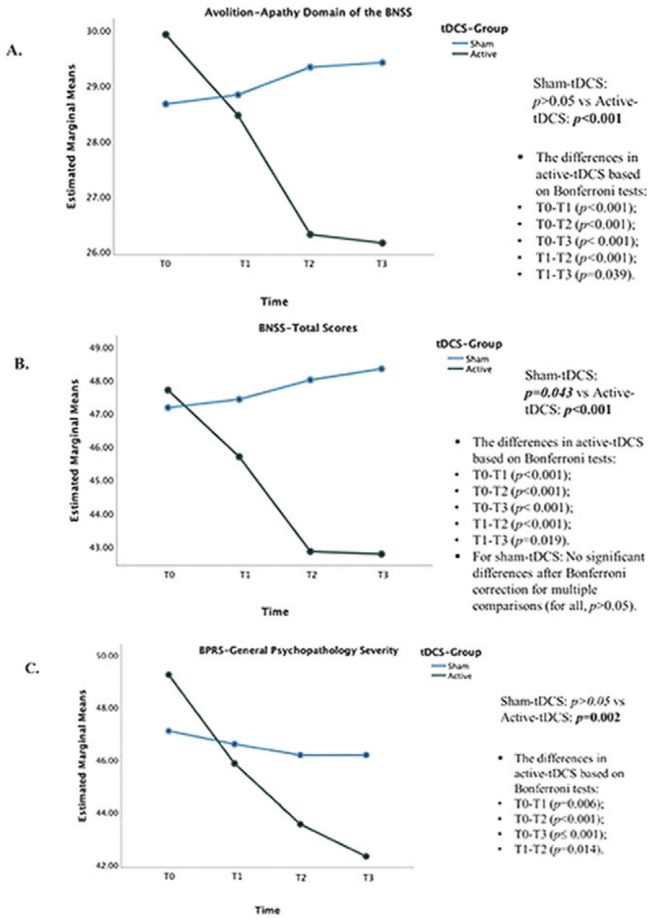

Fig. 1. Changes in Clinical Subscale Scores of tDCS Groups Over Time: Results of repeated measures ANOVA and post-hoc Bonferroni test. **A.** Changes in Avolition-Apathy domain; **B.** Changes in BNSS-Total scores; **C.** Changes in BPRS-General Psychopathology severity. **Notes:** T0 = Baseline/Pre-tDCS assessments; T1 = Post-tDCS assessments on day 5; T2 = Post-tDCS assessments at the 2nd week; T3 = Post-tDCS assessments at the 4th week. Abbreviations: BNSS, Brief Negative Symptom Scale; BPRS, Brief Psychiatric Rating Scale.

Conclusions: The present results suggest that anodal tDCS over the left DLPFC may be effective in alleviating negative symptoms, reducing general psychopathology severity, and acutely enhancing complex attention functions and working memory in recent-onset SZ.

Disclosure of Interest: None Declared

EPV1086

Neuropsychiatric manifestations of Brain Sagging Syndrome. Case report and Literature review

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Introduction: The presentation of psychotic symptoms in adults requires a global medical assessment, especially in cases of atypical presentations or if warning signs are present. The presence of cognitive symptoms and behavioral changes requires screening for various neurological diseases.
Objectives: Underline the importance of neurological evaluation in atypical psychotic conditions with cognitive and behavioral symptoms. Describe Brain Sagging Dementia as a possible etiology of these conditions.
Methods: Presentation of clinical case and bibliographic review.
Results: The clinical case of a 59-year-old female patient brought to the emergency department for psychiatric evaluation due to behavioral alterations is described. During the evaluation, paranoid symptoms were detected, with marked suspicion towards her family, which led to her admission for psychiatric hospitalization. During observation, the clinical history was completed, revealing marked changes in behavior, apathy, perseveration, and decreased functionality for more than five years. Neuropsychological tests were performed, where cognitive and visuospatial alterations were evident. A consultation with the neurology service was requested, who initially considered the diagnosis of behavioral-variant frontotemporal dementia.
Given the history of orthostatic headaches secondary to cerebrospinal fluid hypotension due to a dorsal fistula, a new brain MRI was performed, which found evidence of cerebrospinal fluid hypotension without frontotemporal atrophy. Given all the clinical and radiological findings, a possible diagnosis of Brain Sagging Dementia was considered.
Brain Sagging Dementia is a rare syndrome caused by spontaneous intracranial hypotension (SIH), which mimics the behavioral clinical findings of frontotemporal dementia (bvFTD), excluding it due to the absence of frontotemporal atrophy. It is insidious in nature, with gradual cognitive and behavioral alterations.
The first-line treatment is an epidural blood patch, with partial resolution of symptoms in up to 81% of cases and complete resolution in up to 67%.
In this case presented, the patient is awaiting evaluation by neurosurgery.
Conclusions: In case of suspected neurological origin of psychiatric symptoms, a complete evaluation is essential with special attention to potentially reversible causes.
It is important to keep in mind the neuropsychiatric manifestations that can occur in dementia and other neurology conditions, to avoid delaying a correct diagnosis. These include behavioral alterations, psychotic symptoms, eating disorders, as well as affective disorders ranging from apathy and depression to expansiveness with signs of disinhibition.
Brain sagging dementia is a reversible condition with symptoms of bvFTD, whose early diagnosis and treatment significantly improve the medical prognosis.

Disclosure of Interest: None Declared

EPV1087

Impact of Cannabis Use on Overall Brain Volume in first episode psychosis Patients

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Introduction: Neuroimaging studies show that schizophrenia is linked to reduced grey and white matter volumes and increased cerebrospinal fluid. Cannabis use, a widely known risk factor for psychosis, is associated with poorer clinical outcomes, although the mechanisms underlying this association remain unknown.
Objectives: This study aims to explore the effect of cannabis use on brain volumes in individuals with a first episode of psychosis, comparing users and non-users.
Methods: A cross-sectional study with 207 participants was conducted at the Cantabria Early Psychosis Intervention Program (ITPCan) in Santander, Spain, from January 2020 to July 2024. Clinical, sociodemographic, and cannabis use data were collected. Structural magnetic resonance imaging (sMRI) scans were obtained using a Philips 3.0T MRI machine with T1-weighted sequences. Voxel-based morphometry (VBM) analysis was conducted using the CAT12 toolbox to assess relative volume measures of white matter (WM), gray matter (GM), and cerebrospinal fluid (CSF), accounting for individual differences.Statistical analyses were performed by SPSS 23.0, with a significance of 0.05, including mean comparisons and multivariate analysis of covariance controlling for age, sex, and educational level.
Results: Out of the total sample, 106 patients underwent sMRI, including 44 men and 62 women, with an average age of 36.9 years. In terms of education, 47.2% had achieved basic level, while 52.8% had higher education. Regarding cannabis-related variables, 28 participants (26.5%) were identified as users; the average age of initiation was 17.1 years, with consumption occurring around 6.5 days per week and 6. 7 joints per day.
Non-user group showed slightly higher mean CSF and WM volumes compared to users (CSF=18.65 vs. 17.56; WM=36.49 vs.35.99), but these differences did not reach statistical significance ($p= 0.154$; $p = 0.265$). In contrast, cannabis users showed a significantly greater relative mean GM volume (46.37 vs. 45.12, $p = 0.037$).