T209. TESTING CORTICAL RTMS TARGETS TO IMPROVE PSYCHOMOTOR SLOWING IN SCHIZOPHRENIA AND MAJOR DEPRESSION IN A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL

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Background: Psychomotor retardation is a frequent symptom of schizophrenia spectrum disorders and major depressive disorders, which hampers functional outcome. Neuroimaging studies have pointed to aberrant connectivity between cortical and subcortical components of the motor system in subjects with psychomotor retardation. Furthermore, increased neural activity was noted in premotor areas in subjects with severe motor inhibition. Intentional trials targeting aberrant brain function with noninvasive brain stimulation in this field are missing.

Methods: In a randomized, sham-controlled, double-blind clinical trial we test whether three different repetitive transcranial magnetic stimulation (rTMS) protocols may ameliorate psychomotor retardation after 15 daily sessions in patients with schizophrenia spectrum disorders and patients with major depressive disorder. Randomization is performed in parallel for both diagnoses. rTMS protocols include facilitatory stimulation (15 Hz) of left dorsolateral prefrontal cortex (DLPFC), excitatory stimulation (1 Hz) of the supplementary motor area (SMA), inhibitory stimulation (1 Hz) of the SMA, and sham stimulation of the occipital cortex. Assessments are performed at baseline and every 5 rTMS sessions. Motor retardation is assessed with wrist actigraphy and the Salpetriere Retardation Rating Scale (SRRS). The primary outcome variable is the proportion of responders per group, with SRRS score reduction of 30% from baseline. We apply the last observation carried forward method to the intention to treat population.

Results: The ongoing study has enrolled 24 patients (17 SZ, 7 MDD), and 15 patients completed the study. The proportion of responders differs significantly between groups (X2 = 7.7, p = 0.05) in favor of the inhibitory SMA stimulation (83%). Repeated measures ANOVA of SRRS in all participants with LOCF indicated a significant effect of time (F = 9.6, p = 0.001) but no time x protocol interaction. However, the completer analysis indicated an effect of time (F = 14.4, p < 0.001) and a time x protocol interaction (F = 2.5, p = 0.05). Positive effects were also noted for fine motor perfor

Discussion: The ACIPS is a reliable and valid means to measure social anhedonia in a clinical sample. The findings revealed that the self-reported hedonic functioning of schizophrenia-spectrum patients is associated with both clinical symptomatology as well as some personality-related variables. Suggestions for further clinical and research applications using the ACIPS will be provided.

T211. BASIC SELF-DISTURBANCE AS A PREDICTOR OF DETERIORATION IN ATTENUATED PSYCHOSIS: A 1-YEAR FOLLOW-UP STUDY AMONG COMMUNITY-DWELLING ADOLESCENTS

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Background: Phenomenological research indicates that disturbance of the basic sense of self may be a core phenotypic marker of schizophrenia spectrum disorders. Basic self-disturbance (SD) refers to a disruption of the sense of first-person perspective and self-presence that is associated with a variety of anomalous subjective experiences. Recent studies including from our group provided first, preliminary support for the notion that SD is related to attenuated psychosis symptoms (APS) and depression among clinical (i.e., treatment-seeking) and non-clinical samples of non-psychotic adolescents. However, very few studies, if any at all, have looked at the ability of SD to predict change in APS and depression over time. The goal of this study was to address this lacuna in the literature by examining the unique and added contribution of SD to the prediction of change over time in APS and depression among community-dwelling adolescents.

Methods: The 1-year longitudinal relationship between SD and change in APS and depression were explored in a sample of 100 non-help-seeking adolescents (age 13-15) from the community. SD was assessed with the Examination of Anomalous Self-Experience (EASE), prodromal symptoms and syndromes were assessed with the Structured Interview for Prodromal

T210. PSYCHOSOCIAL CORRELATES OF INTERPERSONAL PLEASURE IN SCHIZOPHRENIA-SPECTRUM PATIENTS

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Background: Although many people with schizophrenia-spectrum disorders report high levels of social anhedonia, it is not clear what differentiates those patients who self-report social anhedonia from those who do not. Moreover, the extent to which the hedonic functioning of severely disordered patients is associated with their clinical symptoms or with personality-related factors remains unresolved.

Methods: We administered the Anticipatory and Consummatory Interpersonal Pleasure Scale (ACIPS; Gooding & Pfum, 2014), a self-report measure designed to assess hedonic capacity for social and interpersonal pleasure, to 125 consecutively admitted inpatients with schizophrenia-spectrum disorder. The (81 schizophrenia, 44 schizoaffective disordered) patients were assessed in terms of their illness and symptom severity. They were also administered measures of self-efficacy (GSES; Jerusalem & Schwarzer, 1992), quality of life (QL-LES-Q-18; Ritsner et al., 2005), and recovery level (RAS-20; Salzer, 2010). Based on total ACIPS scores, two cut-off points were defined in order to classify participants as ‘normally hedonic’, ‘hypohedonic’ or ‘anhedonic’.

Results: The ACIPS negatively correlated with 8 PANSS items: conceptual disorganization (P2, r=-0.24, p<0.01), hallucinatory behavior (P3, r=-0.28, p<0.01), suspiciousness (P6, r=-0.31, p<0.001), emotional withdrawal (N2, r=-0.24, p<0.01), stereotyped thinking (N7, r=-0.19, p<0.05), tension (G4, r=-0.23, p<0.01), G5 mannerism and posturing (G5, r=-0.22, p<0.05), and disturbance of volition (G13, r=-0.26, p<0.01). In addition, the ACIPS positively correlated with self-efficacy, self-esteem, perceived social support, subjective quality of life, and recovery scale scores.

Discussion: The ACIPS is a reliable and valid means to measure social anhedonia in a clinical sample. The findings revealed that the self-reported hedonic functioning of schizophrenia-spectrum patients is associated with both clinical symptomatology as well as some personality-related variables. Suggestions for further clinical and research applications using the ACIPS will be provided.

Discussion: The rate of recruitment to the longitudinal study was much higher than expected, since a higher than expected proportion of screened participants had experienced basic symptoms prior to a previous relapse. Retention rates were as expected, suggesting that the ExPRESS app is acceptable to patients with psychosis. Qualitative feedback from participants supports this conclusion. The results from this longitudinal feasibility study will inform the design of a well-powered definitive study prospectively examining the sensitivity and specificity of basic symptoms in predicting relapses of schizophrenia.
In psychiatric practice, when symptoms “come together” we call the resulting construct as a diagnosis. We believe that there is a disease process that binds together, enabling co-occurrence of varied symptoms. We use either diagnostic or syndromic labels to describe this construct (e.g. positive syndrome, negative syndrome, schizophrenia, at-risk mental state). An emerging idea, promoted by network theorists, is that symptoms may relate by their own intrinsic nature, with no external constructs bringing them together e.g. paranoia leads to social withdrawal, loss of appetite leads to loss of weight etc. This intrinsic organisation of symptom relationships can be studied using network models by applying graph theory to symptom data. 

Methods: We recruited 63 subjects with at-risk mental state [on the basis of Melbourne PACE criteria] but no transition (ARMS-NT), 16 that later developed psychosis (ARMS-T) and 38 drug-naïve patients with first-episode psychosis (FEP) from Basel, Switzerland. Symptoms were measured using Brief Psychiatric Rating Scale. Clinical symptoms can be construed as a system of individual elements (24 nodes) and their relationship (24x23 possible edges) within a group. We estimate each individual’s contribution to the intrinsic organisation of symptoms using a jack-knife bias estimation procedure. Bias values for each pair of symptoms in an individual subject quantified the contribution of that subject to the overall within-group relationship for that symptom pair. Higher values meant greater relationship between the two given nodes in that subject, relative to the rest of the group. We then used Graph Analysis Toolbox, with a range of binarization thresholds based on cost-density of connectivity to extract adjacency matrices.

Results: None of the 24 individual symptoms of BPRS significantly differentiated ARMS-NT from ARMS-T, though a number of symptoms (suspiciousness, hallucinations, disorganisation, motor retardation, hostility and suicidal) showed a gradient of FEP>ARMS-T>ARMS-NT (F test, FDR corrected p<0.05). The small-worldness (F=4.8, p=0.01) and the clustering coefficient (F=10.9, p=0.001) and modularity (F=10.9, p<0.001) of the symptom networks were notably different among the 3 groups, with a gradient of FEP>ARMS-T>ARMS-NT (except for modularity where FEP=ARMS-T). Post-hoc tests revealed significantly high clustering (Hedges’s g = 0.60, p<0.05) and high modular organisation (Hedges’s g = 0.81, p<0.01) of symptoms in ARMS-T compared to ARMS-NT. There were no differences between ARMS-T and FEP groups. In both ARMS-T and FEP groups, anxiety was the most central symptom. In addition to anxiety, the FEP group also had unusual thought content emerging as a central feature.

Discussion: To our knowledge, this is the first study to investigate the intrinsic phenomenological connectivity and its relevance to psychosis in the clinical high-risk population. Risk of transition to psychosis relates to the consolidation of relationship among symptoms (clustering and modularity), but appears unrelated to the severity of symptoms per se. First episode of psychosis could be thought of as a state of high modular clustering among otherwise sparsely connected symptoms. Incongruent clustering (e.g. blunting with anxiety) is reminiscent of Bleuler’s concept of ambivalence being a fundamental feature of psychosis. Deconsolidation of symptom clustering could be the key to prevent transition to frank psychosis in high-risk individuals. Reducing the bridging symptoms (esp. anxiety) could weaken the clinical core of a psychotic episode, complementing the pharmacological approaches of reducing dopamine transmission.