S-29-004
Structural abnormalities in the ventral striatum and the pathological perception of threat in schizophrenia

K. Stegmayer (University Hospital of Psychiatry, Bern, Switzerland; W. Strik, T. Bracht, S. Walther)

Objective: Substantial heterogeneity remains across studies investigating changes in gray and white matter in schizophrenia. Differences in methodology as well as heterogeneous symptom patterns may contribute to inconsistent findings. To address this problem, we recently proposed to group patients in symptom dimensions, which map on the language, the motor and the limbic system. Particularly, abnormalities in emotion processing and regulation are cardinal features in schizophrenia. They may be pivotal to produce abnormal salience and threat beliefs, possibly underlying psychotic symptoms such as persecutory delusions. We therefore aimed to investigate whether patients with prevalent symptoms of emotional dysregulation (e.g., delusions of threat or supernatural power) would show structural neuronal abnormalities in the limbic system.
Methods: Whole brain voxel-based morphometry (VBM) and resting state cerebral blood flow was compared between patient subgroups with different severity of emotional dysregulation and healthy controls. Group comparisons were performed using a one way ANOVA and ANCOVA respectively. Furthermore using a probabilistic fiber tracking approach we bilaterally extracted pathways connecting the limbic system (e.g., nucleus accumbens and amygdala).
Results: Decreased gray matter density in a cluster including the right ventral striatum and the head of the caudate was associated with severe symptoms of emotional dysregulation in patients. Furthermore probability indices of left amygdala-ventral striatum white matter connection were correlated with emotional dysregulation. In addition increased cerebral blood flow of the left amygdala was shown in patients with severe emotional dysregulation.
Conclusion: The ventral striatum and the amygdalae are an important part of the limbic system, and were indicated to be involved in the generation of incentive salience and psychotic symptoms. The results support the hypothesis that grouping patients according to specific clinical symptoms matched to the limbic system allows identifying patient subgroups with structural and cerebral blood flow abnormalities in the limbic network.
Policy of full disclosure: None.

S-30 Predicting psychosis: methodological concepts and first findings of the 'Personalised Prognostic Tools for Early Psychosis Management' (PRONIA) project

S-30-001
Multivariate clinical prediction of psychosis and its early course

S. Ruhrmann (University of Cologne, Psychiatry and Psychotherapy, Cologne, Germany; N. Kaiser, M. Rosen, T. Haidl, S. Borgwardt, P. Brambilla, R. K. R. Salokangas, W. Stephen, N. Koutsouleris)

Objective: During the last 20 years, prediction of psychosis has made substantial progress. Nevertheless, further improvement is required to achieve robust models for prediction enabling not only higher rates of correct classification in general, but also a more and more individualized estimation of the risk for developing a psychosis or—equally important—a chronic functional deterioration. This would provide the desired opportunity to develop and offer preventive measures tailored to the heterogeneous needs of subjects at high risk of psychosis. Currently, almost all models only consider baseline data for prediction, thereby neglecting the dynamic character of at-risk states. Hence, to understand the occurrence of different courses in high risk samples, the interaction between environment and risk during the period after baseline has to be elucidated. Furthermore, the construct of "risk" has to be better understood, e.g., as a product of resilience × vulnerability × environment, whereby all factors may change over time. The PRONIA protocol includes scales as well as repeated measures, which should enable a further elucidation of this aspect.
Methods: On the clinical level, the protocol comprises different scales for measuring life events, adverse experiences, resilience and support as well as psychopathological, demographic and personality related factors. The whole battery is applied at baseline and 9 and 18 months afterwards, parts additionally every 3 months in all four groups (clinical high risk subjects, recent onset schizophrenia and depression patients and healthy controls).
Results: First multivariate calculations of the interplay of psychopathology, adverse experiences and resilience factors will be presented. As PRONIA is still in the recruitment phase, functioning will be the major outcome variable.
Conclusion: Results will be discussed in comparison to currently available predictors of functioning.
Policy of full disclosure: None.

S-30-002
Automatic prediction of psychosis using cognitive measures: the PRONIA approach

C. Bonivento (University of Udine, Udine, Italy; P. Brambilla, S. Piccin, M. Garzitto, M. Re, A. Ferro, G. Cabras)

Objective: To automatic classify patients at risk of psychosis with cognitive measures.
Methods: Cognitive tests will be applied to subjects at risk of psychosis and compared to those of patients with psychosis, depression as well as of healthy controls in order to automatically classify the risk of psychosis.
Results: A reliable cognitive battery has been implemented and administered on tablet devices. Preliminary analyses are currently ongoing.
Conclusion: We expect that cognitive measures can help in automatically diagnosing the risk of psychosis.
Policy of full disclosure: None.

S-30-003
Studying cross-center MRI scanner variations: initial experience from the PRONIA calibration study

C. Lenz (University of Basel, Department of Psychiatry, Basel, Switzerland; N. Koutsouleris, C. Cabral, P. Brambilla, S. Ruhrmann, S. J. Wood, R. K. R. Salokangas, S. Borgwardt)

Objective: PRONIA is an EU funded multicenter study that aims on developing personalized prognostic tools for early psychosis management. Currently, seven European sites participate in collecting magnetic resonance imaging (MRI) data of subjects with a clinically increased risk for developing psychosis, patients with a recent onset psychosis, patients with a recent onset major depressive disorder and