S09. Is schizophrenia really just a neurodevelopmental disorder?

**Chairs:** E. Johnstone (GB), S.M. Lawrie (GB)

S09.1 Recent evidence on the neurodevelopmental model of schizophrenia

J. Parnas, Denmark

No abstract was available at the time of printing.

S09.2 Clinical and cognitive markers of the development of schizophrenia

M. Byrne1,2, B. Clafferty2, R. Cosway3, E. Grant4, A. Hodges5, H. Whalley1, S. Lawrie2, D.G. Cunningham-Owens2, E.C. Johnstone2.

1University of Aarhus, Denmark
2Forth Valley Primary Care NHS Trust, Falkirk West Community Health Team
3Department of Psychiatry, University of Edinburgh, Scotland, UK
4PCEA, Chogoria Hospital, Kenya
5Dr. Gray’s Hospital, Elgin, Scotland, UK

Neuropsychological impairments have been reported in patients with schizophrenia, in the adult relatives of such patients, and in children at high genetic risk for the disorder. In the Edinburgh High Risk for Schizophrenia Study we examined the relationship between neuro-psychological impairments and risk for schizophrenia, and the development of psychotic symptoms in subjects at enhanced genetic risk for schizophrenia. The results from a battery of neuro-psychological assessments were compared among 157 high-risk subjects, and 34 normal controls. Findings were related to a quantitative measure of genetic risk, calculated for the high-risk group according to the number of ill and well relatives in the family and their relationship to the subject, and to development of psychotic symptoms. Neuropsychological differences were identified in many areas of function and were not accounted for by the presence of psychotic symptoms in some subjects. The quantitative measure of genetic liability was not associated with either neuropsychological function or with the development of psychotic symptoms. These results suggest that what is inherited is not the disorder itself, but a state of vulnerability manifested by neuropsychological impairment occurring in many more individuals than are predicted to develop the disorder.

S09.3 Structural and functional MRI in the Edinburgh High Risk Study


MRI studies of the brain in schizophrenia have demonstrated structural abnormalities, particularly of the temporal lobes, and disruptions of fronto-temporal functional connectivity. We conducted sMRI scans in 150 high risk subjects aged 16–25 at baseline and of them after approximately 2 years, and have now conducted fMRI scans in almost 100 after a further 2–3 years. Healthy age-matched controls have also been scanned.

We have found associations between pre-frontal and basal ganglia volumes with genetic liability, and reductions in medial temporal lobe and thalamus volumes in the high risk group compared to controls, at baseline. Those with psychotic symptoms had relatively large brains at baseline as well as reductions in temporal lobe volumes over two years. More detailed analyses of temporal lobe abnormalities and fronto-temporal dysconnectivity are in progress.

Overall, the results suggest that some abnormalities of the brain in high risk subjects are genetically mediated and developmental, that others may only become apparent in late adolescence for unclear reasons, and that psychotic symptoms are associated with further structural changes.

S09.4 An MRI study of subjects in the prodromal phase of psychosis


Introduction: Recent prospective neuroimaging studies have suggested that there are progressive volumetric changes in grey matter over the course of psychotic disorders. We sought to investigate this issue using magnetic resonance imaging (MRI) to examine brain structure in subjects before and after the first episode of psychosis.

Methods: a) Cross-sectional comparison: Subjects identified as being at ultra high-risk (UHR) of developing psychosis were scanned using MRI; at 12 month follow-up 31% had developed a psychosis and 69% had not. The MRI data from these 2 subgroups at baseline were compared by ANCOVA, controlling for age. b) Longitudinal comparison: Subjects were scanned at baseline and again, either after the onset of psychosis, or at least 12 months...