AS06-01 - NEUROIMAGING MARKERS OF GENETIC RISK, DISEASE EXPRESSION AND RESILIENCE IN BIPOLAR DISORDER: CAN THEY BE USED FOR DIAGNOSIS?

S.Frangou

Institute of Psychiatry, Kings College London, London, UK

Introduction: Althoung Bipolar Disorder (BD) is amongst the leading causes of disability worldwide patients experience delays in accurate diagnosis ranging between 5-10 years.

Objectives: To develop a diagnostic aid for BD.

Aims: To evaluate the feasibility of applying pattern recognition techniques to structural magnetic resonance imaging (sMRI) data for the diagnostic classification of patients with BD.

Methods: Gaussian Process Classifiers (GPCs) were applied to gray (GM) and white matter (WM) sMRI data from 26 individuals with BD , 15 with Major Depressive Disorder (MDD) and 26 healthy controls.

Results: The best classification accuracy was obtained using GPC analysis of GM images which differntiated patients from controls with 73% accuracy (sensitivity 69%, specificity 77%). The GM classification accuracy obtained for BD compared to MDD was 66% (sensitivity 40%, specificity 93%). GM discriminative clusters were widely distributed within cortical and subcortical structures including the ventral prefrontal and cingulate cortex and parahippocampal gyrus, insula, thalamus and striatum.

Conclusions: Our results demonstrate the predictive value of neuroanatomical data in discriminating patients with BD from healthy individuals and MDD patients.