

Poster presentation

## **Sex, sadness and schizophrenia: correlations between negative symptoms and cerebral activations**

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### **Background**

Negative symptoms have been considered to be core features of schizophrenia already at the inception of the disorder. Interestingly these symptoms tend to be more pervasive in men than in women patients. The difference has been attributed to the overall more brain abnormalities observed in male schizophrenics, but potential neural mechanisms remain unexplored. The purpose of the present study was twofold: 1) identify significant correlations between negative symptoms and cerebral function in schizophrenia, 2) examine sex differences in the pattern of these correlations.

### **Materials and methods**

15 men and 10 women diagnosed with schizophrenia underwent functional magnetic resonance imaging (fMRI) during passive viewing of sad (a dying father) and neutral (gardening) film excerpts.

### **Results**

Regression analyses using SPM2 between severity of negative symptoms and cerebral function during processing of sadness in all the patients revealed positive correlation in the left prefrontal cortex (PFC) and negative correlation in the right PFC. The analysis of men only showed positive correlations in bilateral prefrontal, temporal and cingulate cortex, as well as amygdala and cerebellum, but no significant negative correlations. The analysis of women

only demonstrated positive correlations in the left PFC and midbrain, and negative correlations in the right PFC.

### **Conclusions**

Present results reveal that the more intense the negative symptoms in schizophrenia the more activated is the left PFC and the less activated is the right PFC during experience of sadness. In addition, an intriguing sex difference in the pattern of correlations between the negative symptoms and cerebral function became apparent.

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