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**BRAIN STRUCTURAL ABNORMALITIES IN FIRST EPISODE PSYCHOSIS: A MULTIMODAL ANALYSIS**

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**Introduction:** White matter abnormalities play a prominent role in the pathogenesis of schizophrenia. Diffusion tensor imaging (DTI) studies showed a widespread decrease in fractional anisotropy (FA) in psychotic disorders.

**Aims:** To examine white and grey matter abnormalities in first episode psychosis (FEP).

**Methods:** We obtained T1-weighted and DTI magnetic resonance images (1.5 T) from 8 right-handed drug-naïve FEP patients and 8 healthy controls. The DTI data set was used to calculate FA maps; we carried-out optimized voxel-based morphometry (VBM) analysis of grey matter (GM) and FA maps using SPM2.

Patients were assessed with a neuropsychological battery comprising the Trail Making Test, the Stroop Colour Word Test, the Wisconsin Card Sorting Test and a test of Facial Affect recognition.

**Results:** The voxelwise analysis showed decreased FA in the superior longitudinal and inferior fronto-occipital fasciculi, bilaterally, and in the left uncinate fasciculus. We observed reduced GM volume in the left frontal cortex (Brodmann areas [BA] 47, 13, 11, 10, and 9) and in right frontal (BA6), temporal (BA34) and occipital (BA 18, 19, and 30) cortex.

Neuropsychological assessment showed impaired executive function and deficit in facial affect recognition.

**Conclusion:** Our findings showed fronto-temporal disconnectivity in FEP and structural alterations in both cortical and subcortical regions.

Neuroanatomical findings are consistent with patients' neuropsychological performance.

Further studies to establish a relationship between white and grey matter disarray on one hand and neuropsychological testing are needed.