

## P02-157 - BRAIN DYSFUNCTION IN BORDERLINE PERSONALITY DISORDER: A DTI STUDY IN MALES PARTICIPANTS

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**Purpose:** Diffusion tensor imaging (DTI) is a relatively new imaging technique that is being increasingly used in different types of psychiatric pathologies to characterize white matter microstructural organization in this kind of disorders. In the present study we use DTI to explore the structure of the white matter of borderline personality disorder (BPD) patients, using a novel voxel-based approach, tract-based spatial statistics (TBSS), to analyze the data.

**Methods and materials:** DTI was performed in a 1.5T MRI unit in 9 young male patients with a DSM-IV defined BPD and 14 healthy male control subjects (no significant age difference between groups). Voxel wise analysis was performed using TBSS (diffusion toolbox of FSL- functional MRI Software Library) to localize regions of white matter showing significant changes of fractional anisotropy (FA). Additional high resolution three dimensional datasets were also acquired and normalised white matter volume was estimated with SIENAX (part of FSL).

**Results:** The TBSS analysis revealed a statistically significant decrease in FA at the anterior part of the body and the genu of the corpus callosum and frontal white matter. This finding is consistent with previously reported findings of subtle prefrontal white matter abnormalities in BPD.

**Conclusion:** Significant white matter tract alterations in patients with BPD were observed in frontal regions involved in emotional, behavioural and cognitive regulation, and these abnormalities may be linked to key aspects of psychopathology in these patients.