

PW01-43 - WHITE MATTER INTEGRITY IN SOCIAL ANXIETY DISORDER - A DIFFUSION TENSOR IMAGING STUDY

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Objectives: Social anxiety disorder (SAD) is characterized by anxiety in situations in which one may be evaluated or be in focus of attention by others. Functional neuroimaging studies revealed hyperactivity of the amygdala in response to social cues like faces in patients with SAD. To date, little is known about the neuroarchitecture of SAD. We hypothesized structural alterations in white matter regions projecting to or from the amygdala such as the uncinate fasciculus.

Methods: Diffusion tensor imaging (DTI) was applied in 26 patients with SAD and 24 healthy controls (HC). White matter integrity was assessed by fractional anisotropy (FA), a measure of fiber coherence and integrity. In addition, individual scores of trait anxiety were correlated voxel-wise with FA values.

Results: Patients with SAD showed reduced global mean FA across the whole brain and locally in regions near the left amygdala, thalamus, cerebellum, cingulate cortex/corpus callosum, and in the corticospinal tract. Furthermore, trait anxiety correlated negatively with FA in a similar region as in the group comparison near the left amygdala, probably representing the left uncinate fasciculus.

Conclusions: Reduced white matter integrity in patients with SAD was found globally as well as locally in different brain regions. The region near the left amygdala/uncinate fasciculus was the only one yielding significance in both the FA group comparison and voxel-wise correlation with trait anxiety. This points to a functional role of this fiber tract in anxiety and emotion regulation, for instance in top-down inhibition of the amygdala by the frontal cortex.