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ALTERED MOTOR PATHWAY INTEGRITY IN SCHIZOPHRENIA

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Introduction: Motor symptoms are frequent in patients with schizophrenia. Although recent DTI studies point to white matter alterations of the motor system in schizophrenia little is known about specific changes.

Objectives: To date there is a lack of approaches with hypothesis driven quantification of specific anatomical fibre tracts. Therefore, we aimed to compare structural connectivity between specific parts of the motor system such as the pre-supplementary motor area (SMA), the SMA-proper, the primary motor cortex and the basal ganglia in patients with schizophrenia and in healthy controls in a DTI-fibre-tracking study.

Aims: It is the aim of this study to investigate whether fibre tract integrity of the motor system is altered in patients with schizophrenia.

Methods: DTI-data were measured in 21 patients with schizophrenia and in 21 healthy controls. Applying a probabilistic fibre tracking approach the most probable anatomical pathways between key regions of the motor system of each participant have been identified. The resulting probabilistic maps were normalized to obtain values between 0 and 1, normalized into the standard MNI-space and smoothed using an isotropic 3-mm Gaussian kernel. Group comparisons have been calculated using two-sample-t-tests.

Results: First results point to altered fibre tract microstructure of loops including cortical motor areas and the basal ganglia. The data analysis is preliminary. Definite results will be presented at the conference.

Conclusions: Altered motor behaviour might be reflected by altered white matter integrity of loops including cortical motor areas and the basal ganglia.

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