

Extended Bihemispherical Impairments of the Association Cortices Were Revealed in Outpatients with Schizophrenia by a New Subgrouping Method

I. Szendi¹, N. Szabó², N. Domján¹, T. Kincses², M. Racsmány³, A. Palkó⁴, L. Vécsei²

¹Psychiatry, University of Szeged, Szeged, Hungary ; ²Neurology, University of Szeged, Szeged, Hungary ;

³Research Group on Frontostriatal Disorders, Hungarian Academy of Sciences, Budapest, Hungary ;

⁴Radiology, University of Szeged, Szeged, Hungary

INTRODUCTION : To clarify pathophysiology of schizophrenia it is required to decrease the phenomenological heterogeneity, and one of the possible ways is determining neurobiologically valid subgroups.

OBJECTIVES: Employing two concurrent methods - Deficit and Nondeficit (Carpenter et al., 1988) vs. cluster S and Z (Szendi et al., 2010) - the group of patients was divided into two subgroups, and brain volumetric peculiarities of the whole mixed group of patients and of these subgroups were compared with the healthy controls and each other.

AIMS: This study aims to possibly reveal the most brain structural anomalies by applying concurrent subgrouping methods of patients, and moreover to confront their validity by the results.

METHODS: High resolution T1 weighted images were performed on n=21 patients with schizophrenia, living integrated in the society and treated in outpatient care, and n=13 healthy control persons. Localised grey matter volumetric deficits were defined with optimised voxel-based morphometry.

RESULTS: Most areas were revealed in the case of the cluster S, which was characterised by an expansive, bilateral brain structural impairment, which mainly affected the heteromodal and partly the unimodal association cortices.

CONCLUSIONS: This suggests that the expansive impairment of the association cortices could have a determining role in the etiopathogenesis of the unfavourable cluster of patients with schizophrenia. In the literature, an extent of damage commensurable to our observations specifically on association areas has never been detected – and our systematic neurocognitive subgrouping method provided the possibility for this.

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