Regional assessment of neurochemical pathology by magnetic resonance spectroscopy

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The objective of this work was to study metabolites NAA, Cho and Cr in order to test a neurodegenerative hypothesis in schizophrenia (decrease of NAA, increase of Cho) and to examine the relations of these metabolites to clinical variables. 1H MRS was performed in 25 schizophrenic patients and 20 ages matched healthy subjects in the three cerebral areas that are highly involved in the pathophysiology of schizophrenia (the prefrontal cortex, thalamus, and the hippocampus). The ratio amplitudes between metabolites and creatine (Cr) were determined. A scale for positive and negative symptoms (PANSS) was applied, in addition to a semi structured interview that covers the demographic and clinical data. In this study, the reduced NAA/Cr might suggest a neurodegenerative process in the prefrontal and hippocampal regions of schizophrenic patients.