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LONGITUDINAL VOXEL-BASED MORPHOMETRY TO EVALUATE PROGRESSIVE GRAY MATER CHANGES IN FIRST-EPIISODE SCHIZOPHRENIA

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Background: Although longitudinal magnetic resonance imaging (MRI) studies have shown that various brain regions undergo progressive tissue loss during the early phases of schizophrenia, regional pattern of these changes remain unclear.

Methods: Longitudinal MRI data were obtained from 18 (12 males and 6 females) patients with first-episode schizophrenia and 20 (11 males and 9 females) healthy controls and at baseline and follow-up with mean scan interval of 2.7 years. To compare gray matter changes over time between patients and controls were evaluated with voxel-based morphometry (VBM) using SPM8 following the longitudinal DARTEL protocol.

Results: In both groups of patient and control longitudinal gray mater reduction was observed in various brain regions including lateral and medial frontal regions and superior temporal region. Excessive decrease in gray matter was found in patients as compared to healthy controls in the left superior temporal region and right inferior frontal region.

Discussion: Our findings suggest that there are differing longitudinal gray matter changes in patients with schizophrenia during the early phases of the illness as compared to healthy individuals.