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SUBCORTICAL STRUCTURAL ABNORMALITIES OF FIRST ONSET DRUG NAÏVE MAJOR DEPRESSIVE DISORDER WITH PANIC DISORDER PATIENTS

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Objective: This study was designed to apply subcortical analysis of first episode drug naïve major depressive disorder with panic disorder patients.
Method: All the participating subjects received scales rating for depression and panic disorder. 15 patients and 15 healthy controls were compared to explore the differences of subcortical structures, such as hippocampus, putamen and thalamus. A new semi-automatic toolbox for computing subcortical areas by a shape and surface model was utilized for the comparison. The volumes of subcortical structures were also compared by using nonparametric t test of SPSS software to support the findings from the FSL FIRST toolbox (FMRIB Software Library, FMRIB's Integrated Registration and Segmentation Tool).
Results: The patient group had significantly lower volumes in the left hippocampus, thalamus and putamen. The volumetric differences were also significant in these areas (2 tailed $p < 0.05$; Mann-Whitney U test). The volumes of thalamus and putamen were also well correlated with clinical rating scales. The relationship between left hippocampal volumes and clinical rating scales was modest. The volumes of right hippocampus were not correlated with clinical rating scales.
Conclusions: The structural abnormalities of putamen and thalamus might represent a specific pathology for major depressive disorder co-morbid with panic disorder. The limited deficits of hippocampal volumes should represent an intermediate type between major depressive disorder and panic disorder. The co-morbidity might have a different subcortical pathology.

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