

The differential orbitofrontal activity and connectivity between atypical and typical major depressive disorder?

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A typical major depressive disorder (MDD) is a distinct subtype of MDD, characterized by increased appetite and/or weight gain, excessive sleep, leaden paralysis, and interpersonal rejection sensitivity. Delineating different neural circuits associated with atypical and typical MDD would better inform clinical personalized interventions. Using resting-state fMRI, we investigated the voxel-level regional homogeneity (ReHo) and functional connectivity (FC) in 55 patients with atypical MDD, 51 patients with typical MDD, and 49 healthy controls (HCs). Support vector machine (SVM) approaches were applied to examine the validity of the findings in distinguishing the two types of MDD. Compared to patients with typical MDD and HCs, patients with atypical MDD had increased ReHo values in the right lateral orbitofrontal cortex (OFC) and enhanced FC between the right lateral OFC and right dorsolateral prefrontal cortex (dlPFC), and between the right striatum and left OFC. The ReHo in the right lateral OFC and the significant FCs found were significantly correlated with body mass index (BMI) in all groups of participants with MDD. The connectivity of the right striatum and left OFC was positively correlated with the retardation scores in the atypical MDD group. Using the ReHo of the right lateral OFC as a feature, we achieved 76.42% accuracy to differentiate atypical MDD from typical MDD. Our findings show that atypical MDD might be associated with altered OFC activity and connectivity. Furthermore, our findings highlight the key role of lateral OFC in atypical MDD, which may provide valuable information for future personalized interventions.

Biography

Zhi-Peng Guo was a PhD student of Beijing Hospital of Traditional Chinese Medicine, Capital Medical University. He has published more than 11 papers in reputed journals.

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