Research report

Fronto-limbic dysfunction in borderline personality disorder: A 18F-FDG positron emission tomography study

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Abstract

Introduction: Several functional neuroimaging studies have demonstrated abnormalities in fronto-limbic pathways when comparing borderline personality disorder (BPD) patients with controls. The present study aimed to evaluate regional cerebral metabolism in euthymic BPD patients with similar measured impulsivity levels by means of 18F-FDG PET during resting state and to compare them against a control group.

Methods: The present study evaluates regional cerebral metabolism in 8 euthymic BPD patients with 18F-FDG PET during resting state as compared to 8 controls with similar socio-geographic characteristics.

Results: BPD patients presented a marked hypo-metabolism in frontal lobe and showed hyper-metabolism in motor cortex (paracentral lobules and post-central cortex), medial and anterior cingulus, occipital lobe, temporal pole, left superior parietal gyrus and right superior frontal gyrus. No significant differences appeared in basal ganglia or thalamus.

Conclusions: Results reveal a dysfunction in patients’ frontolimbic network during rest and provide further evidence for the importance of these regions in relation to BPD symptomatology.

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