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VOLUMETRIC ALTERATIONS IN THE ACCUMBENS AND CAUDATE NUCLEUS IN BULIMIC PATIENTS

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Introduction: Bulimia is a psychopathological disorder characterized by the presence of episodes of binge eating, followed by compensatory mechanisms that aim to prevent weight gain. These episodes of uncontrolled ingestion of food are related with deficits in the inhibitory control of behavior (Fairburn & Harrison, 2003). The basal ganglia namely the Nucleus Accumbens (NA) and the Caudate nucleus (CN) are involved in the fronto-striatal circuits that allow the control of impulses. Objectives: The main goal of this study was to investigate the presence of structural alterations in the NAc and the CN in a sample of bulimic patients, when compared to normal controls. Methods: Our sample was composed by 41 female participants, 21 diagnosed with bulimia and 20 healthy controls (CG) matched in socio-demographic features. The participants were submitted to the clinical assessment and to a structural magnetic resonance imaging (MRI) acquisition. The NA and the CN of the 41 MRIs were manually segmented using the software Slicer 3D. Results: No differences between patients with bulimia and healthy controls were found for the volume of the NA. However, the NC volume is significantly decreased in BN. Conclusions: The reduction of volume in the CN of bulimic patients that was found in this study may be possibly associated with a lower functional activation of this brain structure, contributing to a lack of control of the excessive eating behavior of these patients.

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