

P-565 - CATECHOL-O-METHYLTRANSFERASE ACTIVITY IN ERYTHROCYTES FROM PATIENTS WITH EATING DISORDERS

M.Vieira-Coelho^{1,2,3}, I.Brandão², E.Moura^{1,3}, E.Osório², P.Serrão¹, A.Roma Torres²

¹Institute of Pharmacology and Therapeutics, Faculty of Medicine, University of Porto, ²Psychiatry Department, Hospital de S.João, E.P.E., ³Instituto de Biologia Molecular e Celular, Porto, Portugal

Introduction: Eating disorders (ED) like anorexia nervosa (AN), bulimia nervosa (BN) and binge eating disorder (BED) have complex psychopathological manifestation most presumably with a multifactor etiology. Abnormal feeding had long been linked to disruptions in brain dopaminergic activity. In humans, dopamine (DA) release in the dorsal striatum regulates feeding behavior and correlates with the degree of pleasure experienced while eating. Lower availability of DA could contribute to appetite dysregulation, binge eating behavior and lack of pleasure connected with meals. DA is metabolized, amongst others, by catechol-O-methyltransferase (COMT). Previous studies found an association between eating disorders and functional polymorphisms of *COMT* gene.

Objectives: To evaluate soluble COMT activity in erythrocytes from patients with anorexia, bulimia and binge eating disorders. Diagnostic was made by a senior psychiatry using the Structured Clinical Interview for DSM-IV Axis I disorders and Eating Disorder Examination Questionnaire.

Results: Erythrocyte COMT activity (in pmol/mg prot/h) is significantly increased in AN and BN patients (35.9 ± 6.8 and 39.8 ± 8.2 , respectively) compared to the control group (21.2 ± 3.6). In BED patients, COMT activity was also found higher, but due to a high variation between individual results are not significant (35.2 ± 15.4). An interest result was also found in a group of patients with AN and BN that were being treated with a selective serotonin reuptake inhibitor (SSRI). Unexpectedly these patients presented a COMT activity level similar to the control levels.

Conclusions: Patients with AN and BN present higher soluble COMT activity in erythrocytes. This increase is reversed by treatment and SSRI.