

P-799 - EFFECTS OF THE COMT X 5-HTTLPR GENETIC INTERACTION ON BRAIN GRAY MATTER VOLUME OF HEALTHY INDIVIDUALS

J.Radua^{1,2}, W.El-Hage³, G.C.Monté¹, B.Gohier⁴, M.Tropeano⁵, M.L.Phillips⁶, S.Surguladze⁷

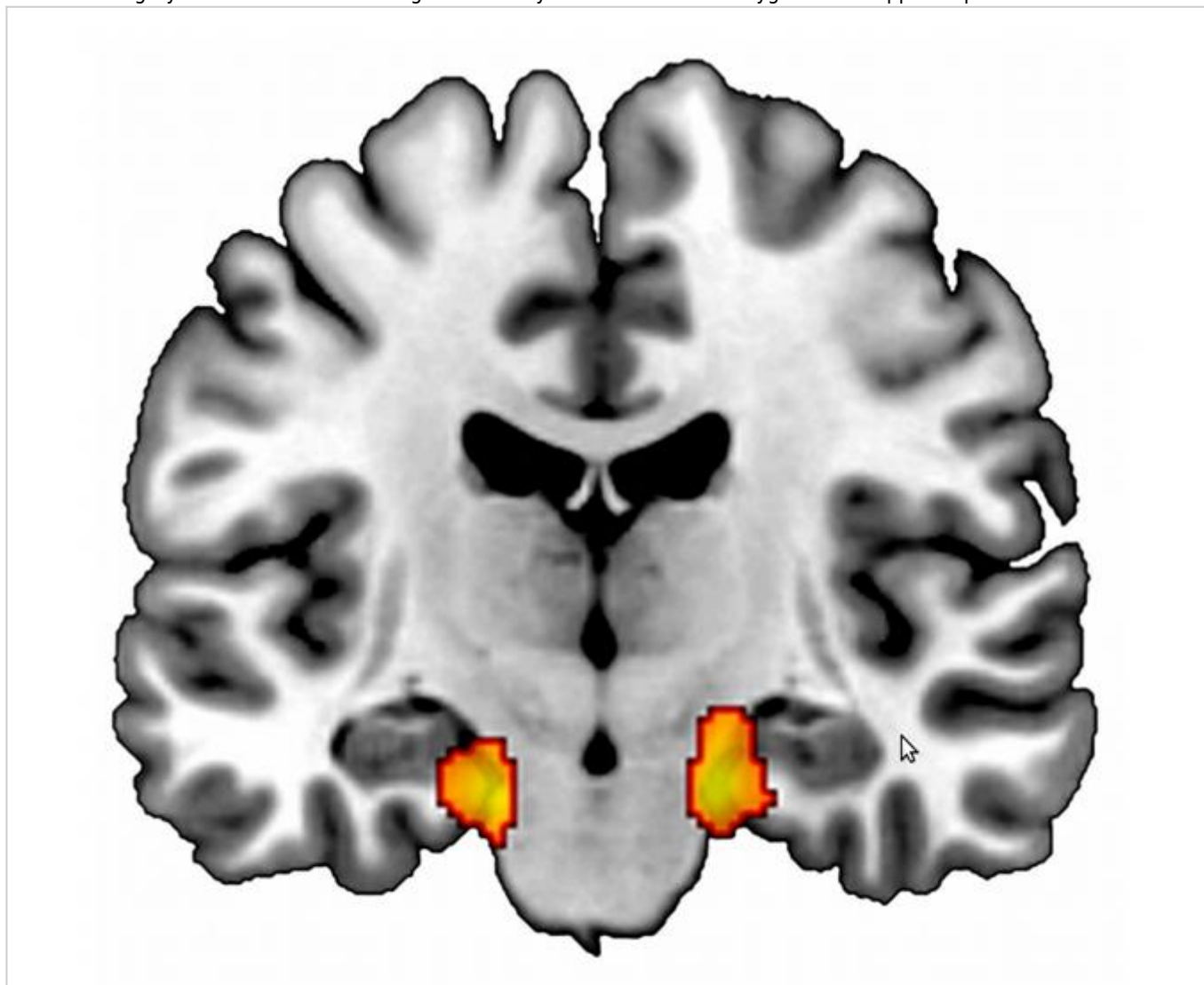
¹Research Unit, FIDMAG CIBERSAM, Sant Boi de Llobregat, Spain, ²Psychosis Studies, Institute of Psychiatry, Kings College, London, UK, ³INSERM U930 ERL CNRS 3106, Université François Rabelais, Tours, ⁴Department of Psychiatry, CHRU Angers, Angers, France, ⁵MRC Social, Genetic and Developmental Psychiatry Centre, Institute of Psychiatry, King's College, London, UK, ⁶Western Psychiatric Institute and Clinic, Pittsburgh, PA, USA, ⁷Cygnnet Health Care, London, UK

Introduction: Genetic polymorphisms of the catechol-O-methyltransferase gene (COMT Val158Met) and the serotonin transporter linked promoter region (5-HTTLPR) have been reported to influence the gray matter volumes of amygdala and hippocampus, but the studies have been inconsistent.

Aim: To elucidate the effects of COMT and 5-HTTLPR on regional gray matter volumes in the same sample of healthy individuals.

Methods: We conducted a diffeomorphic anatomic registration through exponentiated Lie algebra (DARTEL) voxel-based morphometry (VBM) study of the effects of COMT and 5-HTTLPR polymorphisms and their interaction on the gray matter volumes of 91 healthy controls.

Results: A small increase of gray matter volume in right angular gyrus was detected in carriers of the Met allele of COMT, and no main effects of 5-HTTLPR on gray matter volume were detected. The effects of the interaction between COMT and 5-HTTLPR on gray matter volume were large and mainly involved bilateral amygdala and hippocampus.



[COMT x 5-HTTLPR effects on gray matter volume]

Conclusions: The effects of the genetic interaction found in this study might explain the relative inconsistency in the results from previous studies, and suggest further research into genetic interactions.