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ANXIETY PERSONALITY TRAITS AND CANNABINOID POLYMORPHISMS GENES

C. Binelli[1,2], *A. Batalla*[3], *I. Royo*[4], *F. Fernández-Aranda*[2], *M. Gratacos*[4], *S. Subirà*[2], *J.A. Crippa*[5,6], *A.W. Zuardi*[5,6], *R. Martín-Santos*[3,6]

[1]Psychiatry Unit, Corporació Sanitària Parc Taulí, Sabadell, [2]Department of Clinical and Health Psychology, Universitat Autonoma de Barcelona, Bellaterra, [3]Center of Genomic Regulation, PRBB, Barcelona, [4]CIBEROB, Hospital de Bellvitge, Hospitalet de LLobregat, Spain, [5]Department of Neuroscience and Behavior, University of São Paulo, São Paulo, [6]INCT Translational Medicine (CNPq), Brazil, Brazil

Background: There is increasing data supporting the role of endocannabinoid system (eCB) in the control of emotional homeostasis, mainly acting through CB1R activation (Menchoulam&Parker, 2012). eCB seems important to maintain baseline anxiety levels and to recovery/adapt to stressful and aversive situations (Moreira&Luz, 2008). A misbalance in eCB system might contribute to the etiology of anxiety related disorders (Crippa et al., 2009; Marco et al., 2012). The cannabinoid receptor 1 (CNR1) gene has been associated to “high neuroticism” and “low agreeableness” phenotype (Juhasz et al., 2009).
Aims: Study the association between personality traits and genetic polymorphisms located in genes related to eCB *(CNR1, CNR2, FAAH and MGKLL)* in patients with anxiety disorders.
Methods: In a case-control study, we analyzed 48 polymophisms tagSNPs in sample of 507 Caucasians subjects of both genders. All were assessed using the Semi-Structural Interview of DSM-IV criteria and the Temperament and Character Inventory of Cloninger. Multiple regression analysis was used to determine whether the different personality traits were associated with each variant in *CNr1, CNr2, FAAH*, and *MGKLL,* using age and gender as confounder variables.
Results: A significant association was found between “high Harm-avoidance” trait and rs1049353 in the *CNR1* gene ($p < 0.005$) and rs1157694 in the *FAAH* gene ($p < 0.001$). “Low novelty-seeking” trait was associated with rs324490 in the *FAAH* gene ($p < 0.005$).
Conclusions: These findings suggest that genetic variations in the *CNR1* and *FAAH* genes may modulate the expression of some clinical aspects of anxiety traits and probably anxiety disorders. *Grants: ICIII G03/184; SGR2009/1435.*

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