# P-1387 - PSYCHOSOCIALLY STRESS MICE TREATED BY ACUTE CB1 AGONIST SHOW BEHAVIORAL DEFICITS AND ENDOCANNABINOIDS CHANGES

U.Havemann-Reinecke[1,2], J.Tomas-Roig[1], T.Schmeil[1], M.Brzozka[1], M.Leweke[2], P.Falkai[1]
[1]Psychiatry, University of Goettingen, Goettingen, [2]Psychiatry, University of Heidelberg, [3]Psychiatry, University Mannheim-Heidelberg, Mannheim, Germany

Aim of the study: to examine the role of endocannabinoids and CB1 receptors in psychosocial (PS) stress in mice. PS stress was induced in C57Bl/6 mice by resident-intruder paradigm (Brzózka et al. 2010). After 3 weeks PS stress anandamide (AEA), 2-arachidonoylglycerol (2-AG), N-oleoylethanolamine (OEA) and palmitoylethanolamide (PEA) were estimated in hippocampus, prefrontal cortex, striatum and cerebellum. Identically stressed and control mice (N=15) were injected with WIN55212.2 (3 mg/kg) ± Rimonabant (3 mg/kg). Functional Observational Battery (FOB) (Golub et al., 2004), Open Field (OF), Prepulse Inhibition test (PPI) were studied. All behavioral recordings were done at night. Stressed mice showed significantly lowered AEA and OEA in Hippocampus, significant increase of 2-AG in Cortex, decrease of OEA in Striatum and increase of 2-AG in Cerebellum. Stressed mice displayed significantly lowered body weight gain, higher scratching activity, decrease of righting reflex time in FOB, higher distance travelled, time moving and hyperactivity in OF. In stressed mice WIN55212.2 significantly lowered rearings, increased righting reflex time, reduced distance travelled, time moving and hyperactivity in OF. Rimonabant did not significantly antagonize the effect of WIN55212.2 in stressed mice, but in controls. In controls WIN55212.2 significantly increased the number of scratches, reduced distance travelled, time moving and climbing and increased the startle response amplitude in PPI. The latter effect was significantly antagonized by Rimonabant. To sum up significant stress effects could be recorded in behavior, but less in PPI. PPI seems to be dependent on CB1-receptor processes but in case of stress endocannabinoids-activities may contribute.



https://doi.org/10.1016/S0924-9338(12)75554-2 Published online by Cambridge University Press