ANTIDEPRESSANTS IN CHRONIC UNPREDICTABLE MILD STRESS (CUMS)-INDUCED DEFICIT OF FIGHTING BEHAVIOR

Grażyna Ossowska*, Zofia Danilczuk, Bożena Klenk-Majewska, Leszek Czajkowski, Iwona Żebrowska-Łupina

Department of Clinical Pharmacology, Skałbiszewski Medical University of Lublin, Jacezkiewicza 8, PL 20-600 Lublin, Poland


Chronic unpredictable stress (CUS) is one of the behavioral models resembling in some respects (loss of normal aggressiveness) human depression. In the present study, consistent with the ethical principles for scientific experiments on animals, we have decided to modify the CUS procedure. In this new modified model named chronic unpredictable mild stress (CUMS), we have introduced mild stressor (14 h period of 45° cage tilt) instead of one severe stressor (20 s exposure to electric footshock). The purpose of the present study was to determine whether this new procedure CUMS, similarly to CUS, affected the footshock-induced fighting behavior. We have also investigated the effect of antidepressant drugs with different pharmacological profiles (imipramine, mianserin, fluoxetine, moclobemide, tianeptine) and anxiolytic drug (oxazepam) on fighting behavior in rats submitted to CUMS. It was found that in rats subjected to CUMS procedure the number of fighting attacks was significantly reduced (by about 80%). Prolonged treatment (once daily, for 14 days) with imipramine (10 mg/kg/day), tianeptine (12.5 mg/kg/day), mianserin (10 mg/kg/day), moclobemide (50 mg/kg/day), fluoxetine (10 mg/kg/day), but not oxazepam (5 mg/kg/day) prevented the deficit in fighting behavior in rats subjected to CUMS. In conclusion, the results of the present study indicate that CUMS, similarly to CUS procedure, induced behavioral deficit in rats which was normalized by antidepressants with a different pharmacological profile.

Key words: antidepressants, oxazepam, chronic stress, fighting behavior, rats

*correspondence: e-mail: Zofiadan@asklepios.am.lublin.pl