Repeated treatment with antidepressants but not anxiolytics prevents the stress-induced deficit of fighting behavior.

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

Department of Clinical Pharmacology, Medical University, Jacekowskiego 8, PL 20-000 Lublin, Poland


Several animal models of “depression” have been examined. One of them is chronic unpredictable stress (CUS)-induced deficit of fighting behavior in rats. In the present study, we compared the effects of two antidepressants (fluoxetine or fluvoxamine) and three anxiolytics (buspirone, lorazepam or oxazepam) on the electric footshock-induced fighting behavior in the pairs of male Wistar rats exposed to CUS procedure (16-day application of various unpredictable stressors). It was found that, in chronically stressed rats, the number of fighting attacks was significantly reduced (by about 70%). Prolonged (for 14 days) treatment of rats with fluoxetine or fluvoxamine (both at the dose of 10 mg/kg/day) counteracted the deficit of aggression induced by the chronic stress. On the contrary, the anxiolytics: lorazepam (0.5 mg/kg/day), oxazepam (5 mg/kg/day) or buspirone (0.2 mg/kg/day) administered for 14 days, did not modify the deficit of fighting induced by CUS procedure. It must be underlined that prolonged treatment with all used drugs did not change the intensity of fighting in normal (unstressed) rats. In conclusion, prolonged treatment with antidepressant drugs prevents the CUS-induced deficit of fighting behavior, whereas no beneficial effect of anxiolytic agents was found.

Key words: fluoxetine, fluvoxamine, buspirone, lorazepam, oxazepam, chronic unpredictable stress (CUS), electric footshock-induced fighting behavior, rats

*correspondence*