

ABSTRACT

STUDY OF ANTIDEPRESSANT EFFECT ON ANXIETY-LIKE BEHAVIOR IN DIABETIC MICE MODELS

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Diabetes mellitus is a chronic disease which has been associated with depression. This research aimed to determine the effects of diabetes mellitus on anxiety like behavior in mice and effects of milnacipran, a serotonin noradrenaline reuptake inhibitor (SNRI), on anxiety like behavior in diabetic mice. Male mice were injected with a single intraperitoneal alloxan (140 mg/kg) to induce diabetes. After 72 hr induction, diabetic mice were put in footshock box and received 0,6 mA shock for 10 seconds on and 30 second off for 10 minutes treatment each day. Two way ANOVA showed that there was no significant difference in percentages of time spent on light area in diabetic mice with stress and non-diabetic mice with stress on the light dark box (LDB) method. Milnacipran (10 mg/kg and 20 mg/kg p.o) did not affect time spent in light area of diabetic stress mice. In contrast, the EPM observation produced inconsistency result. From these results, it could be concluded that diabetes mellitus not influenced on anxiety like behavior in mice induced footshock and milnacipran at doses of 10 and 20 mg/kg p.o had no effect in diabetic mice induced footshock on the light dark box.

Keywords: Diabetes, antidepressant, anxiety-like behavior.