MEETING ABSTRACTS

BEHAVIORAL OUTCOMES OF MATERNAL STRESS AND PERINATAL MIRTAZAPINE TREATMENT IN RAT OFFSPRING

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Untreated depression during pregnancy has wide spectrum of negative effects on the mother and the child. Recently, the rising numbers of depression in pregnant women were followed with a steep rise of antidepressant use. Mirtazapine is an atypical antidepressant generally considered to be safe to use during pregnancy and lactation.

Aim of our study was to investigate the effect of maternal stress and effect of perinatal mirtazapine treatment on the behavior of rat offspring.

Adult female Wistar rats were randomly assigned to stress and control groups and subjected to three weeks of chronic unpredictable stress schedule and mated with males. From gestation day 10 they were administered mirtazapine (10mg/kg/day) or vehicle until weaning via cookie. Offspring of experimental dams was subjected to battery of behavioral testing. Our results generally show that the offspring of stressed mothers had elevated anxiety-like behavior in different tests for anxiety with different severity depending on the age and sex of the offspring, while mirtazapine treatment generally reduced the negative effect of stress. In forced-swim test the adolescent offspring from stress+mirtazapine groups exhibited lower depression-like behavior compared to control groups. In Y-maze test all experimental groups of adolescent females had lowered spontaneous alternations compared to control, suggesting worsened exploration and spatial memory.

Further investigation is needed to assess the safety of mirtazapine use during pregnancy and post-partum period.

Keywords: maternal depression; behavior; antidepressant; mirtazapine