

Original Paper

Effect of Methylene Dioxy Metha Amphetamine administration during pregnancy on reproductive system of BALB/c mice

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Abstract

Background and Objective: The pregnancy period is very sensitive and complicative stages of life. It has been shown that addictive drugs such as ecstasy (MDMA: Methylene Dioxy Metha Amphetamine) can interfere in this stage. The aim of this study was to assess the effect of Methylene Dioxy Metha Amphetamine administration during pregnancy on reproductive system of BALB/c mice.

Materials and Methods: In this experimental study, 10 and 5 female BALB/c mice were randomly selected as cases and controls, respectively. The pregnancy was induced following ovarian hyperstimulation with PMSG and hCG followed by mating with male animals. MDMA (5 mg/kg) and saline was injected intraperitoneally in day 7 and 14 of pregnancy in experimental and controls, respectively. The ovarian structure, as well as uterine tube, uterine horns and body, and vagina were studied histologically using light microscopy 27 days post delivery date. Data analyzed by using SPSS-17 and Chi-Square and Fisher exact test.

Results: The rate of primary follicles was decreased from 18.42% in experimental to 33.33% in controls ($P < 0.05$). The rate of mature follicles was significantly increased in experimental mice as compared to controls ($P < 0.05$). The number of atretic bodies was lower in experimental than controls. The cellular alterations were observed in some portions of uterine tubes and uterine horns after ecstasy administration. However, no alterations observed in other parts of reproductive system.

Conclusion: This study showed that MDMA cause some structural alterations in the uterine tubes and uterine horns, increase follicular maturation and reduction of follicular atresia in BALB/c mice.

Keywords: Ecstasy, Pregnancy, Reproductive system, BALB/c mice

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