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Poster Presentations

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Hydroalcoholic extract of Ephedra pachyclada leaves modifies the ovarian tissue changes caused by cyclophosphamide in female rats

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Background: Cyclophosphamide (CP) is an anti-cancer drug that acts as an alkylation agent after metabolism in the liver. CP has toxic effects on the body's cells, especially the function of reproductive system and infertility.

Objective: The aim of this study was to investigate the effect of Ephedra hydroalcoholic extract on ovarian tissue and hypothalamic-pituitary-gonad axis in female rats treated with CP.

Materials and Methods: In this experimental study, 48 adult Wistar female rats were divided into 6 groups of 8, including control, sham, CP and CP recipient groups along with 250, 500 and 1000 mg/kg of

Ephedra hydroalcoholic extract. Ephedra hydroalcoholic extract was fed to animals by gavage. On the twenty-ninth day of the experiment, the serum concentration of LH, FSH, estrogen and progesterone was measured and the number of ovarian follicles was counted. The results were analyzed by ANOVA statistical test at the significance level of $p < 0.05$.

Results: Mean serum concentration of LH and FSH and number of atretic follicles increased significantly in all experimental groups compared to the control and sham groups. But, mean serum concentration of FSH and number of atretic follicles decrease significantly in experimental groups 3 and 4 compared to the CP group. Also, mean serum concentration of estrogen and progesterone and number of primordial, primary, secondary and graafian follicles showed a significant decrease in experimental groups 1, 2 and 3. However, mean serum concentration of estrogen and progesterone and number of primordial, primary, secondary and graafian follicles showed a significant increase in experimental group 4 compared to the CP group.

Conclusion: Due to the antioxidant properties, in a dose-dependent manner, Ephedra hydroalcoholic extract modified the changes caused by CP in female rats.

Key words: Ephedra, Cyclophosphamide, Ovary.