



P89. PROTECTIVE EFFECTS OF CALLIGONUM COMOSUM EXTRACT PRESCRIPTION ON OVARY OF POLYCYSTIC OVARY MOUSE MODEL

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Introduction: Polycystic ovary model is considered as a factor in induction of oxidative stress within ovarian tissue. Chemical and herbal extract antioxidants can be used to counter with effects of these agents. In this study, the preventive effects of calligonum extract treatment as antioxidant on a mouse model of polycystic ovary was assessed.

Materials and Methods: 5 adult NMRI female 6 weeks mice, after 2 months model induction with a single injection of Estradiol Valerate (40 mg/kg), were assessed by measurement of oxidative stress and histopathology method. Then 60 mice were divided to 4 groups: control, sham, experimental groups 1 and 2. Experimental group 1 received a single injection of Estradiol Valerate (40 mg/kg). Experimental group 2 received a single injection of Estradiol Valerate following by IP 20 mg/kg calligonum extract treatment weekly. In this study, oxidants and antioxidants levels in the ovarian tissue were assessed by flowcytometry and FRAP and histological study by morphometric method, embryo development with IVF. These results were analyzed by ANOVA and Chi square tests.

Results: The obtained results showed that Estradiol Valerate (40 mg/kg) are able to increase oxidative stress within ovarian tissue and causes ovarian cysts after two months. In addition calligonum extract treatment (20 mg/kg) can significantly ($P \leq 0.05$) increase antioxidants concentration and percentage of in vitro fertilization compared to the other groups. The correlation between antioxidants concentration and ROS levels showed that their relationship in PCO group and calligonum group was strong inverse, while that in two other groups were moderate inverse. Cyst formation in calligonum group decreases compared to PCO group.

Conclusion: Calligonum extract treatment (20 mg/kg) could prevent cyst formation in PCO group, improvement of in vitro fertilization and made balance between oxidants and antioxidants inside ovarian tissue. The medicinal properties of plants could be due to the antioxidant substances such as catechin and quercetin compounds.

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