

## **Abstract**

### ***Investigation of the Effects of Hydroalcoholic Extract of Figwort ( Scrophularia Striata ) on Ovarian Parameters of Diazinon Exposed Female Rats***

**Background and Objective:** The vast majority of the native plants of Iran have medicinal properties such as antioxidants properties, anti-inflammatory, antimicrobial, and anti-tumor. It is been several years that *Scrophularia Striata* is considered as a traditional plant in different medical treatments. However, comprehensive studies on its effects on reproduction is still lacking in the literature. The present study is aimed at, investigating the possible protective effects of the *Scrophularia Striata* against hormonal and ovarian changes in comparison to the proven effects of the vitamin E on Diazinon exposed female Rats.

**Methods :** After reverse light/dark cycle adaptation (12 hours) of 42 two months aged mature Wistar female Rats, on average weight of 180-200g, they are divided into six random groups. The control group did not exposed on any drug. For the second group, Dimethyl sulfoxide solvent (0.1%) is injected. For the third group Diazinon (30 mg/kg/day), fourth group *Scrophularia Striata* (200 mg/kg/day), fifth group Diazinone (30 mg/kg/day) with *Scrophularia Striata* (200 mg/kg/day), and sixth group Diazinone (30 mg/kg/day) with vitamin E (200 mg/kg/day) are intraperitoneally injected. The period of injections for all the groups were 14 days according to the Estrous cycle of the female Rat.

**Results:** The injection of the DZN to the female Rats during 14 days caused weight reduction in comparison to the control group, although, it was not statistically significant. Whereas, both of the figwort and vitamin E lead to weight gain which is significant only in vitamin E group. In addition, DZN causes cellular degeneration by increasing free radicals and oxidative stress resulting the reduction of the ovarian tissue weight, increase of Atretic follicles, reduction of the number of follicles and the size of the Corpus luteum, and Inhibition of steroid hormones metabolism. In contrast, the Figwort similar to vitamin E normalized these changes significantaly. However, these effects were not significant on the number of Graffian follicules, in opposed to the protective effects of the vitamin E with respect to the Graffian follicules changes against DZN, which was meaningful. Diazinone and *Scrophularia Striata* similar to the vitamin E, do not have significant effects on Gonadotropins.

**Conclusion:** The results of the present study shown that, the hydroalcoholic extract of the figwort and vitamin E can protect the ovarian tissue and sexual hormones changes against the cellular apoptosis, inflammation and produced free radicals due to the Diazinone metabolism.

**Keywords:** *Scrophularia Striata*, Diazinon, LH, FSH, Estrogen, Progesterone, Ovary