

عنوان مقاله:

Urtica pilulifera L. seed extract promotes folliculogenesis and alleviates the diminished ovarian reserve in the Balb/c mice model : An experimental study

محل انتشار:

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خلاصه مقاله:

Background: Urtica pilulifera L. seed (UPS) is a Persian traditional medicine prescription that positively affects female infertility. **Objective:** This study aimed to evaluate the beneficial effects of UPS on a diminished ovarian reserve (DOR) model induced by cyclophosphamide in Balb/c mice. **Materials and Methods:** A single intraperitoneal (۷۵ mg/kg) of cyclophosphamide was administered to establish a DOR model. ۲۵ female Balb/c mice (۶-۸ wk, ۲۵ ± ۲ gr) were randomly divided into ۵ groups (n = ۵/each), including control (normal saline), model (DOR), DOR+۵۰, DOR+۱۰۰, and DOR+۲۰۰ (mg/kg UPS, gavage) groups for ۱۴ days. The levels of follicle-stimulating hormone, luteinizing hormone, estradiol, malondialdehyde, superoxide dismutases, apoptosis, and histopathological alterations were analyzed. Gas chromatography-mass spectrometry analysis performed to identify the phytochemicals of the UPS. **Results:** It was observed that the UPS extract reduced malondialdehyde concentration and apoptosis in the DOR model as well as enhanced superoxide dismutases activity in the ovaries in a dose-dependent manner. Moreover, it exerted a modulatory effect on steroidal hormones such as follicle-stimulating hormone, luteinizing hormone, and estradiol. The histopathological analysis revealed the therapeutic potential of the UPS extract. The main chemical components of UPS were linoleic acid (۵۹.۲۵%), n-hexadecanoic acid (۱۰.۳۶%), and oleic acid (۸.۳۹%). **Conclusion:** The results indicated that the UPS extract has therapeutic potential in the DOR model. This potential is attributed to the reduction of oxidative stress, modulation of apoptosis, and regulation of steroidal hormones that may be associated with the observed beneficial effects of fatty acids on fertility improvement

کلمات کلیدی:

Apoptosis, Fatty acids, Female infertility, Herbal medicine, Persian medicine, Oxidative stress

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