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Effect of low dose of *Vitex agnus castus* on volume and surface area of oocyte in mice

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ABSTRACT

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Vitex agnus-castus L. (VAC) is a deciduous shrub that is native to Mediterranean, Europe and Central Asia. VAC extract has been used traditionally in the treatment of menstrual disorders (amenorrhoea, dysmenorrhoea), premenstrual syndrome (PMS), corpus luteum insufficiency, uterine bleeding, fibroid cysts, infertility, acne, menopause, disrupted lactation and hyperprolactinaemia. This study was aimed to evaluate the effects of low dose of VAC essential oil on volume and surface area of oocyte in mice by stereological technique. In this study 10 young adult female BALB/c mice were randomly divided into two groups: group 1 as control group and group 2 which received 75 mg/kg VAC essential oil via gastric gavage for seven consecutive days. At the eighth day, animals were euthanized and the ovaries were quickly removed, weighted and fixed in buffered formalin. The samples were processed by routine and standard paraffin embedding and using the isotropic Cavalieri design were sectioned. Eight to twelve sections from each ovary were sampled through systematic random sampling and were stained by H&E. The volume and surface area of oocytes were estimated using the invariator. The results showed that volume and surface area of oocyte in preantral follicles were not significant differences between control and treated groups, whereas in antral follicles, volume of oocyte were significantly increased ($P < 0.05$) and there was not any significant changes in surface area of oocyte between experimental groups. Finally, it can be concluded that VAC essential oil as a phytoestrogen can affected structure of ovary and oocyte.

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