



## Stereological estimation of ovarian volume and number of follicles in low dose of *Vitex agnus castus* treated mice

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### ARTICLE INFO

### ABSTRACT

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*Vitex agnus castus* (VAC) has been proven to have a wide range of biological activities. It is commonly used in the treatment of menstrual disorders resulting from corpus luteum deficiency, including premenstrual symptoms and spasmodic dysmenorrhea, for certain menopausal conditions, and for insufficient lactation. The aim of this study was to investigate the effects of low dose of VAC essential oil on ovarian volume and oocyte number 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, weighed 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 of the ovary (cortex and medulla) was estimated by unbiased stereological methods and the numbers of the follicles were estimated using an optical disector. The results showed that volume of ovaries and ovarian cortex was significantly increased in treated mice compared to control but volume of ovarian medulla didn't change. Stereological result revealed that number of primordial follicle was decreased in treated group but this change was not significant ( $P>0.05$ ) and number of preantral follicles was significantly increased in treated mice ( $P<0.05$ ). It was also observed that number of antral follicles was increased in treated animals but there were not significant differences between control and treated groups ( $P>0.05$ ). It can be concluded that VAC essential oil can affect structure and maturation of ovarian follicles even in low dose.

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