

Original Article

Effect of vitamin E on serum level of sexual hormones and number of ovarian follicles exposed to sodium meta- bisulphite

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Abstract

Background and Objective: Sodium meta-bisulphite is used as a preservative in food and pharmaceutical industries. The aim of this study was to determine the effect of vitamin E on the improvement of sodium-meta bisulphite-induced complications on ovarian tissue and sex hormones in rats.

Methods: In this experimental study, 70 adult Wistar rats were randomly allocated into 7 groups including control, sham and interventional groups were received vitamin E (200 mg/kg/bw), sodium metabisulfite (520 mg/kg/bw), and sodium meta-bisulphite (520 mg/kg/bw) was combined with vitamin E in 50, 100 and 200 mg/kg/bw doses. Prescriptions were taken as gavage for 30 days. Blood samples were taken from animals to measure LH, FSH, estrogen and progesterone hormones. Ovaries were removed and follicles were counted after tissue sections.

Results: The concentration of estrogen hormones, progesterone, LH, FSH and number of ovarian follicles in the groups receiving sodium meta-bisulphite and vitamin E alone was significantly lower than control group ($P < 0.05$). In animals treated with sodium meta-bisulphite and vitamin E at 100 and 200 mg/kg/bw, no significant difference was observed. However, in animals which were simultaneously treated with meta-bi-sulfite sodium and vitamin E at dose 100 and 200 mg/kg, in compared with the control group, significant improvement was not observed.

Conclusion: Sodium meta-bisulphite consumption with 50, 100 and 200 mg/kg body weight of vitamin E can reduce the effect of sodium meta-bisulphite on ovarian follicles and sex hormones.

Keywords: Sodium Metabisulfite, Vitamin E, Ovarian follicle, Estrogen, Progesterone, LH, FSH, Rat

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