

Evaluation of estrogen-like activity of *Nigella sativa* in ovariectomized rats.

ABSTRACT

The purpose of the current study was to evaluate estrogenic activity of *Nigella sativa* using ovariectomized (OVX) rats. Forty OVX rats divided into five groups. *N. sativa* was administered orally as a supplement to chaw palate at different doses of 300, 600 and 1200 mg/kg for 21 days to OVX rats and were compared to either positive (0.2 mg/kg conjugated equine estrogen- CEE) or negative control (1 ml distilled water). Histopathological changes of the rats' uterus such as epithelial proliferation and endometrial glandular hyperplasia were assessed as well as uterus weight and serum estradiol level. Supplementation with *N. sativa* resulted in a significant increase in uterine weight as compared to the OVX controls accompanied by altering the serum estrogen levels. Histopathological evaluation of the uterine section revealed changes characterized by atrophy of the uterus in the OVX controls, while the OVX rats supplemented with *N. sativa* showed increased endometrial response as indicated by proliferation of the endometrial glands and epithelial hyperplasia as well as epithelial proliferation and endometrial glandular hyperplasia. The effects of *N. sativa* were comparable to that in the CEE group. *N. sativa* showed the desired effects on the physical, histological and biochemical parameters of the uterine tissue in OVX rats, thereby indicating its probable beneficial role in the treatment of postmenopausal symptoms.

Keyword: *Nigella sativa*; Estrogenic effect; Uterotrophic assay; Ovariectomized rat.