

Assessing estrogenic activity of *Nigella sativa* in ovariectomized rats using vaginal cornification assay.

ABSTRACT

The aim of this study was to determine the estrogenic activity of *Nigella sativa* (NS) by vaginal cornification assay using an ovariectomized rat model. Forty ovariectomized Sprague Dawley rats, weighting 250 to 350 g were used in the study. *N. sativa* powders were administered to ovariectomized rats for 21 consecutive days at dosages of 300, 600 and 1200 mg/kg respectively, and were compared with each of daily treatment with 0.2 mg/kg conjugated Equine estrogen as positive control or distilled water as negative control. Vaginal smears were taken to observe the estrogenic effect on vaginal epithelium of rats. The vaginal smear showed an atrophic pattern at baseline. The occurrence of vaginal cornification after *N. sativa* supplementation indicated estrogenic activity of *N. sativa*, but this effect was not as much as CEE. The most influence of *N. sativa* in vaginal cornification was observed in low dose NS that this result was in agreement with serum Estradiol level of this group. The cornified cells percentage significantly differed from control group ($P < 0.05$). These data suggest that *N. sativa* possesses estrogenic function in the ovariectomized rat model which can be helpful in managing menopausal symptoms as an alternative for Hormone Replacement Therapy.

Keyword: *Nigella sativa*; Estrogenic activity; Vaginal cornification assay; Ovariectomized rats.