



*Gynecol Endocrinol*. 2018 Nov;34(11):975-980. doi: 10.1080/09513590.2018.1469611.

Epub 2018 May 7.

# The beneficial effects of nerolidol and hesperidin on surgically induced endometriosis in a rat model

Rauf Melekoglu <sup>1</sup>, Osman Ciftci <sup>2</sup>, Sevil Eraslan <sup>3</sup>, Asli Cetin <sup>4</sup>, Nese Basak <sup>5</sup>

Affiliations

PMID: 29734842 DOI: [10.1080/09513590.2018.1469611](https://doi.org/10.1080/09513590.2018.1469611)

**Abstract** in English, [Chinese](#)

The objective of this article is to analyze the effects of nerolidol and hesperidin treatment on surgically induced endometriosis in a rat model. Endometriosis was induced in 24 healthy adult female Wistar albino rats via homologous uterine horn transplantation. Three operations were performed on each rat. After the second operation, the rats were randomized into control, nerolidol, and hesperidin treatment groups, and medications were administered for 2 weeks. The effects of the drugs on the endometriotic foci were evaluated after the third operation. Compared with the endometriosis control group, the average volume of the lesions was significantly lower in rats treated with hesperidin and nerolidol. Malondialdehyde levels were significantly reduced in the nerolidol-treated group, and glutathione levels and superoxide dismutase activity were significantly elevated in the endometriotic foci of both the hesperidin- and nerolidol-treated groups compared with the endometriosis group. Hesperidin and nerolidol treatment also improved histological parameters, such as hemorrhage, vascular congestion, necrosis, and inflammatory cell infiltration in the endometriotic foci. The results of this study demonstrated that treatment with the potent antioxidants nerolidol and hesperidin caused a significant regression of surgically induced endometriotic foci in rats.

**Keywords:** Anti-inflammatory agents endometriosis; hesperidin; nerolidol; oxidative stress.

## Related information

[MedGen](#)

[PubChem Compound \(MeSH Keyword\)](#)

## LinkOut – more resources

**Full Text Sources**

[Taylor & Francis](#)

**Other Literature Sources**

[scite Smart Citations](#)

**Medical**

[MedlinePlus Health Information](#)