

Inhibition effect and mechanisms of quercetin on surgically induced endometriosis.

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Abstract

OBJECTIVE:

To evaluate the therapeutic effect of quercetin on the rat endometriosis models and the relationship between the inhibition effect and the expression of HSP70 and VEGF.

METHODS:

A surgical model to simulate endometriosis was established and the rats were divided into four groups. After 3 weeks of daily administration of quercetin, dazazol, combined quercetin+dazazol, and placebo, the potential rule of quercetin to inhibit endometriosis in rats were evaluated by measuring the implants, examining the histology and detecting the expression of heat shock protein 70 (HSP70) and vascular endothelial growth factor (VEGF) in ectopic endometrium with immunohistochemistry.

RESULTS:

Compared to placebo, quercetin [100 mg/(kg x d)], dazazol [36 mg/(kg x d)], and combined quercetin + dazazol decreased the size of implants significantly respectively, and there was no significant difference among the three groups. HSP70 and VEGF were both significantly reduced by quercetin or combination treatment, but no significant difference was seen between quercetin and combination treatment groups.

CONCLUSION:

Quercetin inhibits surgically induced endometriosis in rats, and the possible mechanism is to inhibit the expression of HSP70 and VEGF.