

Genistein Affects Estrogen Receptor Alpha (ER- α)/Estrogen Receptor Beta (ER- β) Ratio, and Nuclear Factor-Kappa Beta (NF- κ B) in Mice Model of Endometriosis

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ABSTRACT

Background: Currently, treatment of endometriosis remains expensive. One of low-cost treatments for this disease is genistein. This study aimed to assess the effect of genistein on Estrogen Receptor Alpha (ER- α) and Estrogen Receptor Beta (ER- β) ratio and Nuclear Factor- Kappa Beta (NF- κ B) in mice model of endometriosis remain unclear.

Methods: This study is experimental using post-test research design. Twenty-four female mice (*Mus musculus*) model of endometriosis were fed genistein. The mice were divided into four groups with various doses of genistein, i.e., 1,30 mg/mice/day (group P1); 1,95 mg/mice/day (group P2); 2,60 mg/mice/day (P3), and; 3,25 mg/mouse/day (group P4). We fed the mouse using a sonde for 14 days. On the fifth day, the mice were sacrificed and dissected to take the peritoneal tissue. The tissue was coloured using Immunohistochemistry staining (IH) and microscopically assessed at 400x magnification calculated at 1000 cells in order to observe the expression of RE- α , RE- β , and NF κ B.

Results: Genistein at various doses had a significant effect on the RE- α / RE- β ratio. The higher the genistein dose given, the lower the RE- α / RE- β ratio. In addition, genistein dose of 3.25 mg / day significantly reduced NF κ B expression.

Conclusions: Genistein in various doses have been shown to significantly influence the RE- α / RE- β ratio. In other words, the higher the dose of genistein given will decrease the RE- α / RE- β ratio.

Keywords: Endometriosis, Genistein, Estrogen receptor- α , Estrogen receptor- β , Nuclear factor- κ B, Mice model of endometriosis

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