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Increased of Type 1-Collagen Expression in Vaginal Wall of the Ovariectomized Rats (Rattus norvegicus) Strain Wistar After Ovariectomy on Centella Asiatica Extract

Peningkatan Ekspresi Kolagen Tipe - 1 pada Dinding Vagina Tikus (Rattus norvegicus) Strain Wistar Pasca Ovariektomi Akibat Ekstrak Pegagang (Centella Asiatica)

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Abstract

Many cells, particularly vaginal cells, become atrophied in menopausal women. This condition will result in an inhibition of the epithelial cell maturation and reduced collagen synthesis so that vaginal elasticity will also decrease. This condition can be improved by the administration of estrogen or phytoestrogen. *Centella asiatica* is one of the plants that contain phytoestrogens with several essential components such as asiaticoside, Asiatic acid and madecassic acid could increase synthesis collagen. The objective of this study was to investigate the thickening and increasing collagen of the vaginal wall of ovariectomized Wistar rats treated with *Centella asiatica* extract. Ovariectomized rats were divided into 4 treatment groups, where rats in P1 group was not administered the extract of the *Centella asiatica*; Meanwhile rats in P2, P3 and P4 wsa administered the *Centella asiatica* extract at dose of 30, 60 and 120 mg/kg BW respectively per day for 40 days. On day 61, the rats were sacrificed and examined immunohistochemically for the assessment of their type-1 collagen expression.

In conclusion, the expression of the type-1 collagen producing cells increased significantly by the administration of *Centella asiatica* extracts at doses of 30 , 60 and 120 mg/ kg BW daily for 40 day.. However, the 120 mg one was the most optimal dose that was able to enhance type-1 collagen synthesis. This proved that *Centella asiatica* extract contained phytoestrogen, which could increase the thickening and elevate the collagen of vaginal walls of the ovariectomized rats.

Keyword : Centella, asiatica, extract, vaginal, wall, , ovariectomy, type-1,

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