

Abstract:

Staphylococcus aureus bacterium is a natural flora of the skin. It is also one of the most important pathogenic bacteria in skin lesions. One of the healthiest natural compounds is the extract of *Hypericum perforatum* with anti-inflammatory, anti-oxidant and anti-bacterial properties. Moreover, ostrich oil is also known as an antioxidant and anti-inflammatory compound. Given these properties, the objective of this research was to evaluate the healing effect of the combination of *Hypericum perforatum* extract and ostrich oil on the ulcer inoculated with *Staphylococcus aureus*. This research was performed on 40 adult rats in four groups including negative control (no treatment), positive control (combination of Vaseline and Eucerin) and two treatment groups with ointment containing 2% ostrich oil and *Hypericum perforatum* extract and 5% ostrich oil and *Hypericum perforatum* extract. Ulcers formed with a 6 mm punch in the back region of the samples were evaluated at 0, 3, 7 and 14 days in terms of rate of recovery and histopathology. ANOVA test and Tukey test were used to compare the ulcer area and the rate of recovery in different treatments. Non-parametric test of Kruskal-Wallis was used to compare the data obtained from histopathologic evaluations. Findings related to the mean area and the rate of recovery of ulcer, given significant difference on days 3 and 7 after the formation ulcer, suggested that the combination of *Hypericum perforatum* and ostrich oil had a positive effect on wound healing. The effect of the 5% ointment was more than that of 2% ointment. Histopathologically, there were significant differences between the ulcers of different treatment groups in terms of order of basal cells, the proliferation and differentiation of the barbed cells, the rate of formation of the epidermis, rate of collagen fibers, rate of fibroblasts, the severity of inflammatory cells, and the severity of bleeding ($P < 0/05$). The use of a combination of *Hypericum perforatum* and ostrich oil decreased the rate of inflammation and decreased the recovery of open ulcer inoculated with *Staphylococcus aureus* in the rat skin.

Keywords: *Hypericum perforatum* extract, Ostrich oil, Histopatology, *Staphylococcus aureus*, Wound healing



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The Thesis Submitted for the Degree of DVM

The effects of *Hypericum perforatum* extract and ostrich oil on wound healing inoculated with *Staphylococcus aureus* in rats

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