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Abstract

The Healing Effects of *Nigella sativa* Gel on Oral Traumatic Ulcer

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Abstract

Background and aim: Traumatic ulcer, the most common type of oral cavity ulcer, is often caused by physical trauma. Herbal medicines have been successfully used to heal these types of ulcers. The present study aimed to investigate the impact of using *Nigella sativa* gel on the oral cavity traumatic ulcer healing process. Various beneficial effects, such as antioxidant, antimicrobial and anti-inflammation effects, have been reported for this plant, and it is supposed to be effective in treating oral cavity ulcers.

Materials and methods: In this experimental study, using the punch technique, a circular ulcer with a diameter of 3 millimeters was made in rats' left buccal mucosa (n=45). The rats were randomly divided into three groups: control (intact without treatment), sham (treated with placebo gel), and treatment (treated with *Nigella sativa* gel) group. The sham and treatment groups received local interventions (applying the placebo and treatment gel for the ulcers) once daily. The oral cavity ulcers were assessed on the third, seventh, and fourteenth days. Their clinical characteristics, including ulcer area, contraction percent, minimum and maximum diameters, secretory exudate, granulation tissue, scar tissue, and pseudo-membrane color were evaluated using the Pressure Ulcer Scale for Healing (PUSH); According to which, the percentage of wound contraction was estimated.

Results: *Nigella sativa* gel showed significant improving effects on wound area (p=0.001), wound contraction percentage (p=0.005), minimum wound diameter (p=0.009) and maximum wound diameter (p=0.014), secretory exudate, granulation tissue, and pseudo membrane color, however, it did not significantly affect scar tissue.

Conclusion: According to the results, there was a significant difference between the mean values of the ulcer recuperation-related factors in the intervention group compared to control and sham groups. *Nigella sativa* is therefore has a therapeutic potential in healing of oral cavity physical ulcers.

Keywords: *Nigella sativa* gel, Oral traumatic ulcer, Healing effect

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