Oral

Comparison of the Effect of Aloe Vera Gel and Nitrofurazone 2% on Epithelialization and Granulation Tissue Formation Regarding Superficial Second-Degree Burns

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Abstract

Background: Therapeutic effects of various treatment options in burn wound healing have been one of the most controversial issues in wound care. Aloe Vera is an herbal medicine, which has wound healing effects on chronic wound. The present study was carried out to examine and compare the effect of Aloe Vera gel and nitrofurazone 2% on epithelialization and granulation tissue formation with respect to superficial second-degree burns.

Methods: This is a randomized clinical trial and the sampling method was used based on pre-defined inclusion criteria. The sample size was 30 patients that were admitted to Kerman burn center, including patients that had superficial burn in the symmetry limb, who were chosen based on depth burn and the qualifications needed for the study. One part of the burned area was dressed using ointment nitrofurazone 2% (according to routine care in the hospital) and the symmetry part was dressed using Aloe Vera gel. The tools for data collection included a demographic questionnaire, tools of bats-joints for checking epithelialization and granulation tissue. The burn wound epithelialization and granulation at the beginning of patient's admission and the first, second and third weeks after dressing were assessed and recorded.

Results: In patients treated with Aloe Vera gel, epithelialization and granulation tissue of burn wounds were remarkably earlier than those patients treated with nitrofurazone 2% ($P<0.05$).

Conclusion: In conclusion, Aloe Vera gel enhanced epithelialization and granulation tissue of burn wounds in superficial second-degree burn patients better than nitrofurazone 2%. The mechanism of the remarkable efficacy of Aloe Vera gel in the epithelialization and granulation tissue of burn injuries may be explained by its hydrocolloid and moisturizing and anti-inflammatory effects.

Keywords ● Nitrofurazone ● Granulation tissue ● Burns ● Herbal medicine

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