

عنوان مقاله:

Use of ovine acellular peritoneal matrix combined with honey and ovine fetal skin extract in the healing of full-thickness infected burn wounds in a rat model

محل انتشار:

گفتمان پژوهش دامپزشکی، دوره 11، شماره 4 (سال: 1399)

تعداد صفحات اصل مقاله: 9

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خلاصه مقاله:

Treatment of infected burn wounds remains a challenge in burn units. Silver-sulfadiazine (SSD) is the most commonly used topical antimicrobial agent in managing these wounds. We aimed to accelerate the healing of burn wounds by combined application of ovine acellular peritoneal matrix (OAPM), honey (H), and ovine fetal skin extract (OFSE). Sixty-four standardized burn wounds were created on the dorsum of ۱۶ rats and were subsequently inoculated with *Staphylococcus aureus* and *Pseudomonas aeruginosa*. After ۴۸ hr, the wounds were surgically debrided and received either physiologic saline (control group) or SSD, OAPM+SSD, OAPM+H+SSD, OAPM+H+OFSE+SSD. The healing wounds were evaluated for size, bacterial counts, histopathology, and biomechanical properties on days ۳, ۷, ۱۴, ۲۱, and ۲۸ after surgery. All treatments had effectively reduced the level of *S. aureus* and *P. aeruginosa* on wounds compared to the control group by day ۳ and ۷. The wounds treated with combined application of OAPM+H+OFSE+SSD demonstrated considerable inflammation reduction, fibroplasia, complete re-epithelialization, and wound contraction together with significantly lesser scar tissue formation. Treatment with OAPM+H+OFSE+SSD showed superior biomechanical properties of the healing wounds. The findings suggested that the synergistic effect of dressing the wounds with OAPM, H, and OFSE was a very effective approach in accelerating the healing process of the experimentally induced infected full-thickness burn wounds in rats.

کلمات کلیدی:

Acellular matrix, Burn wounds, Fetal skin extract, Honey, Wound healing

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