

عنوان مقاله:

Effects of *Streptococcus thermophilus* in spray-dried state on wound healing in an experimental model of second-degree burn wound in Wistar rats

محل انتشار:

بیستمین کنگره ملی و هشتمین کنگره بین‌المللی زیست‌شناسی ایران (سال: 1397)

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خلاصه مقاله:

Because of some disadvantages of current drugs that are used for the treatment of burn wounds, annually new research is conducted for finding new drugs for burn management. Today, studies indicate that administration of some strain of probiotic bacteria (oral or topical) may have beneficial effects on the wound healing process. Spray drying is an inexpensive method for long-term preservation of bacteria. Because effects of probiotics are special and strain-dependent, the aim of present study was to evaluate the effects of *Streptococcus thermophilus* in spray-dried state on the second-degree burn wound healing process. For this, second-degree burn wounds were induced on the back of 80 male Wistar rats. Then the rats randomly allocated to four groups: one negative control (received nothing), two vehicle controls (received topical Eucerin and skim milk) and one experimental groups (received bacteria in Eucerin, topically) during the experiment periods (14 days). The wound surface areas were measured on days 1, 3, 7 and 14 of the experiments. Moreover, the skin of the wound areas were harvested for microscopic evaluation of the healing process. The results showed that in 3rd and 7th days of the experiments, the experimental group had significantly higher percent of wound healing than control groups. Moreover, microscopic analysis showed that in the wounds received the bacteria the fibroblastic migration, density of granulation tissue and re-epithelialization were higher than control groups.

کلمات کلیدی:

Burn wound, *Streptococcus thermophilus*, Rats, Probiotics

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