Modified Collagen for Burns Enhances Healing Rate Possibly by Cell Signaling

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ABSTRACT

INTRODUCTION: Scientific documentations are available on type-I collagen dressing to effectively promote burn-wound healing when it is devoid of immunogenic contaminants and presented properly to treat burn patients. Correlation between the performance of high pure collagen dressings and their wound healing effects are further studied. The objective of the present study is to clinically assess the high purity, non-immunogenic and charge modified bioactive Collagen sheet (Healicoll, U.S. Patent No. 6,127,143 and 5,814,328) through possible potential cell signal phenomenon.

METHODS: Healicoll Collagen sheet was clinically compared against other common conventional dressings. The results of a multi-center clinical study using 26 burn patients of age group between 28 and 67 are reported here.

RESULTS & DISCUSSION: The results indicate a mean percent epithelialization (+/- standard deviation) following 3 weeks treatment were only 18.5 +/- 8.6 percent for traditional gauze dressings, and 28.2 +/- 5.7 percent for Healicoll Collagen Sheet dressing. These results indicate that a dressing made of non-immunogenic collagen can significantly encourage faster healing of burn-wounds. There was a 4-fold increase in the rate of wound healing in the Healicoll group compared to the control group. The average time to heal the burn wound was reduced 58% in the Healicoll group compared to the conventional dressing group. The details of cell-signal phenomenon induced by the charge modified high purity collagen will be discussed.

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