

Decreased wound contraction with fibrin glue-treated skin grafts.

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Publication Date: 1992

Abstract:

Skin grafts can be used effectively to inhibit wound contraction. A critical element of this inhibition is the adherence of the graft to the wound bed. Fibrin glue has been shown to increase the adherence of skin grafts to wound beds. We therefore devised an experiment to determine the effect of fibrin glue on skin graft inhibition of wound contraction. Two 2.5 x 2.5-cm full-thickness defects were created on the dorsa of 15 Sprague- Dawley rats. Thirty partial-thickness grafts were harvested from isogenic donor animals using a brown dermatome. Prior to grafting, one full-thickness defect, each animal received 0.2 mL of fibrin glue (Immuno AG, Vienna, Austria). The adjacent wound served as the control and received 0.2 mL of normal saline. Grafts were applied, sutured, and protected with an occlusive dressing. The size of graft sites treated with fibrin glue or normal saline was determined at the time of graft application and thereafter at 3-day intervals for 21 days using standardized photographic techniques. The percentage of change from initial wound size at each point was recorded for each group. Graft sites treated with fibrin glue contracted less than the controls from the ninth postgraft day to the completion of the study. The mechanism by which fibrin glue inhibits wound contraction may be related to increased adherence of grafts to the underlying wound bed. As an adjunct in skin grafting, fibrin glue may offer certain advantages that are not achieved by suturing alone.