Cost-benefit analysis of outcomes from the use of fibrin sealant for fixation of skin grafts in small-size burns compared to staples as historical controls: a retrospective review.

Authors: Butts CC, Sahawneh J, Duffy A, Curtis R, Mishra N, Frotan MA, Hodge J, Luterman A, Gulati S

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Abstract:

INTRODUCTION: Historically, split-thickness skin grafts have been fixed onto the recipient site by suture and/or staples. Fibrin sealants have become available for the fixation in the past 10 years. Fibrin sealants have been shown to be at least as effective as staples, and recent reports show them to cause less pain. However, the product is much more expensive than traditional suture and/or staple fixation. The cost-benefit ratio of sealant has not yet been proven.

METHODS: A review of charts for 202 consecutive patients was undertaken for patients with burns that were less than 10% total body surface area (TBSA) that underwent excision and grafting using fibrin sealant at the regional burn center. A historical control comprising 48 consecutive patients with burns that were less than 10% TBSA that underwent excision and grafting using staples as the only means of fixation was used for comparison. Demographics (such as age, weight, and sex), personal history of tobacco use, previous diagnosis of diabetes, type and depth of burn, TBSA, area of grafting, graft and donor locations, mesh type, rate of hematomas, rate of graft loss, rate of complete closure at 1 month, and time to discharge after surgery were recorded for each patient in both cohorts. The data were compared and statistical analysis performed for graft loss complications and number of days until the patient could be discharged home with outpatient wound care.

RESULTS: Use of fibrin sealants has resulted in statistically significant lower rates of loss of graft at our institution. Additionally, a decrease in the number of days until discharge to outpatient wound care of nearly 2 days produced a lower cost of care in patients with less than 10% TBSA undergoing excision and grafting.

CONCLUSIONS: The use of fibrin sealants allows for fewer graft loss complications and earlier discharge in patients who have burns that are less than 10% TBSA. This decrease in hospital days results in savings, although this difference is not statistically significant.