Use of fibrin sealant in thermal injury.

Authors: McGill V, Kowal-Vern A, Lee M, Greenhalgh D, Gomperts E, Bray G, Gamelli R

Publication Date: 1997

Abstract:

Fibrin glue is hemostatic in skin grafting and other therapeutic situations. This prospective, open-labeled comparative study involved thermally injured patients: 34 patients received fibrin sealant (FS) and 61 did not, at Loyola University Medical Center, Maywood, Illinois, and Shriners Burn Institute, Cincinnati, Ohio. FS-treated patients were 23.6 +/- 16.8 years old, versus 20.8 +/- 16.8 years for controls. The percentage of total body surface areas burn was 10.0% +/- 4.5% in the study patients versus 10.9% +/- 7.9% in the controls. The FS group did not receive packed red blood cell transfusions, albumin infusion, or topical bovine thrombin (TBT). The control group received 1.56 +/- 2.1 units of packed red blood cells, 186 +/- 194 ml 5% albumin, and TBT (20,000 units) 2.6 +/- 0.8 kits during excision and grafting procedures. The estimated blood loss/graft ration was 0.50 +/- 0.30 ml/cm2 (median = 0.46) for the study group versus 0.98 +/- 2.4 ml/cm2 (median = 0.56) for the control group (p = 0.14); for patients more than 16 years of age, this difference was significant (p = 0.03). FS may be a viable alternative to standard hemostatic techniques, because it reduced the need for blood transfusion, alloantigen exposure, and blood-borne viral infection risk. FS also eliminated the need for TBT and epinephrine, did not have an adverse impact on the surgical outcome, and tended to improve the cost differential.