

Cryoprecipitate-topical thrombin glue. Initial experience in patients undergoing cardiac operations.

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Abstract:

The use of fibrin glues as topical hemostatic agents is reported in the European literature. We have composed an analogous compound in our operating rooms using cryoprecipitate and topical thrombin (1000 units/ml) in equal volumes applied directly to the bleeding site. We have used cryoprecipitate-topical thrombin glue in 26 patients undergoing cardiac operations. Severe bleeding not responding to usual methods of control was encountered during or after coronary artery bypass (n = 17), valve replacement (n = 3), bypass plus valve replacement (n = 5), or repair of postinfarction ventricular septal defect (n = 1). Five patients were operated on emergently and four were undergoing their second cardiac operation. The glue was used in four patients while on bypass and fully heparinized and in 17 patients who continued to bleed after separation from bypass and administration of protamine. Hemostasis was achieved in all patients and none required reexploration for bleeding. In five patients undergoing reexploration for postoperative hemorrhage (none having received cryoprecipitate-topical thrombin glue during the initial operation), the glue provided hemostasis when other measures failed, and no additional reexplorations were needed. No patient exhibited hypersensitivity, fibrinolysis, or coagulopathy following the use of this glue. In 16 patients followed for 9 to 12 months postoperatively, no hepatitis has occurred. The highly concentrated fibrinogen in cryoprecipitate is activated by thrombin to form fibrin and bring about rapid hemostasis. Cryoprecipitate-topical thrombin glue is a readily available, reliable, and inexpensive topical hemostatic agent in the patient undergoing a cardiac operation.