The role of fibrin sealants in hemostasis.

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Abstract:

Hemostasis is a prerequisite for wound healing, and under normal physiologic conditions, it is achieved by means of the coagulation cascade. However, there are a number of surgical procedures where there may be considerable benefits to the patient, surgeon, or health-care costs if hemostasis can be achieved more efficiently. The rapid and effective control of bleeding during and after surgery reduces blood loss and can help reduce postoperative complications. These improved outcomes can reduce the need for transfusion, with the associated risk of viral transmission, and have a positive impact on operative and hospital stay times. Fibrin sealants are surgical hemostatic agents derived from human plasma that reproduce the final steps in the coagulation pathway and form a stable fibrin clot. Fibrin sealants are used in a broad range of surgical procedures to assist hemostasis, including cardiovascular, hepatic, and splenic surgery, gastrointestinal hemorrhage, skin grafting, and dental extractions in anticoagulated patients. Patients with coagulopathies are at high risk of prolonged or excessive bleeding during or after invasive surgery, and these patients may also benefit from the use of fibrin sealants. This article reviews the role of fibrin sealants in hemostasis, citing a number of key clinical studies that report a significant reduction in blood loss or chest drain output after surgery with fibrin sealant compared with controls.