Tissue sealing.

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Abstract:

The tissue adhesive property of fibrinogen was first described 60 years ago. However, it was not until the availability of concentrated plasma fibrinogen and bovine thrombin that the use of fibrin sealants in surgical practice became widespread. Today, fibrin sealants are used for tissue sealing across a range of surgical procedures, including cardiothoracic, gastrointestinal, neurosurgery, and vascular surgery. Tissue sealing with fibrin sealant reduces perioperative hemorrhage and controls blood loss from cut surfaces of tissues that are difficult to suture. The use of fibrin sealants can also reduce perioperative and postoperative complications by reducing fluid leakage, air leakage, and by preventing fistulae formation. Fibrin sealants have a unique physiologic action, and the resulting fibrin clot is fully degraded by the body's natural wound healing process. The range of surgeries and types of procedure that incorporate the use of fibrin sealants in tissue sealing is expanding. As commercially prepared fibrin sealants become more widely available, the number of patients and surgeons benefiting from improved surgical outcomes is also set to increase. This article reviews the areas of surgery within which fibrin sealants are currently used to assist tissue sealing and highlights the improved surgical outcomes, such as reduced blood loss, operative time, and postoperative complications.