Review: Fibrin sealant: Clinical use and the development of the University of Virginia Tissue Adhesive Center.

Authors: Mintz P.D., Mayers L., Avery N., Flanagan H.L., Burks S.G., Spotnitz W.D.

Publication Date: 2001

Abstract:

The utilization of fibrin sealants to augment hemostasis, seal tissues, and facilitate targeted delivery of drugs is increasing. In 1985, a hospital-based program was established to provide autologous and allogeneic cryoprecipitate that serves as a fibrin sealant when combined with bovine thrombin. To date, more than 4,000 patients have been treated with this product at our institution, with an efficacy rate greater than 90%. Collaboration among surgical services and the blood bank fostered multispecialty expertise with this product that led, in 1997, to the establishment of the University of Virginia Tissue Adhesive Center. The Tissue Adhesive Center is a multidisciplinary center whose physician director and nursing and administrative support staff facilitate basic research, laboratory investigation, and preclinical and clinical trials with collaborators throughout the university. The Tissue Adhesive Center also provides educational programs and clinical consultation, and tracks and participates in peer review of sealant use. The licensure of a commercially produced, virally inactivated, pooled-plasma fibrin sealant in May 1998 provided an alternative source of adhesive. Utilization of the commercial product surpassed use of the blood bank product in April 1999. At present, use of the commercial product is approximately 3 times that of the blood bank-produced sealant. This report reviews the clinical uses of fibrin sealant, its regulatory history, the production of fibrin sealants, the evolution of a blood bank fibrin sealant program, the development of the Tissue Adhesive Center, and the utilization of commercial and blood bank-produced sealant at our university hospital.