

Fibrin glue. [Review] [24 refs]

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Abstract:

Fibrin glue is a topical biological adhesive, the effect of which imitates the final stages of coagulation. The glue consists of a solution of concentrated human fibrinogen which is activated by the addition of bovine thrombin and calcium chloride. The resultant clot aids haemostasis and tissue sealing and is completely absorbed during wound healing without foreign body reaction or extensive fibrosis. The fibrinogen component of fibrin glue can be produced from fresh frozen plasma obtained from single unit donations thereby reducing the risks of transfusion transmitted infections encountered by exposure to pools from large numbers of donors. Methods involving precipitation of fibrinogen by cryoprecipitation, polyethylene glycol or ammonium sulphate have been described and evaluated. The risk of transmission of infection can be further reduced by using plasma from 'accredited donors' who are plasma donors regularly tested for ALT and markers of viral infection or by use of fibrinogen prepared in advance of surgery from autologous blood. The second component, a mixture of thrombin and CaCl_2 , is quantitatively and qualitatively well defined and commercially available (Armour Pharmaceutical Co., Thrombinar (bovine thrombin]). Thrombin is applied to the operation site simultaneously and in equal volume to the fibrinogen but from a separate syringe. In the UK a commercial heat treated fibrin glue prepared from pooled plasma is available on a doctor/named patient basis (Tisseel, Immuno, Vienna). The haemostatic and adhesive properties of fibrin glue can be employed in virtually every surgical specialty. The usefulness of the glue is particularly well documented in the fields of cardiovascular surgery, ENT and neurosurgery.(ABSTRACT TRUNCATED AT 250 WORDS) [References: 24]