Autologous fibrin glue reinforced by platelets in surgery of ascending aorta.

Authors: Christenson JT, Kalangos A

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Abstract:

OBJECTIVES: Fibrin sealants are popular for the improvement of perioperative hemostasis and reducing blood transfusion needs. Biological glues prepared from pooled human donor plasma have an inherent risk of transmission of blood-borne disease and are quite expensive to use. A system for the production of autologous fibrin sealant re-enforced by platelets has been developed. Its efficacy, safety and economic benefits have been evaluated in a prospective, randomized study.

MATERIAL: 20 consecutive patients undergoing replacement of the ascending aorta by the same surgical team had local application of either Tissucol (Group A) or autologous fibrin glue (Group B) for hemostasis.

RESULTS: No adverse effects of either glue were recorded. The volume of produced autologous fibrin glue was 25 cc PRP. Platelet yield was 72 %. The two groups were comparable. Efficacy was group comparable. Average cost for sealants in Group A was 470 +/- 100 Euros compared to 273 Euros in Group B, p = 0.004.

CONCLUSIONS: Autologous fibrin glue re-enforced by autologous platelets can be safely produced in the operating room in a large volume, with an comparable efficacy at a lower cost than commercial sealants.