

Fibrin sealant patch for repair of acute type a aortic dissection.

Authors: Lisy M., Kahlil M., Stock U.A., Wildhirt S.M.

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Abstract:

Introduction The use of glues to repair disrupted tissue during acute type-A aortic dissection (TAD) surgery may be discontinuous, and cause embolization and cell necrosis. We report a method of fibrin sealant patch (FSP) to reinforce dissected aortic tissue with a collagen double layer coated with fibrinogen/thrombin on either side (TachoSil; Takeda, Konstanz, Germany). **Methods** In 12 patients (seven male, 66.9 \pm 11.7 years) with acute TAD we performed FSP of the intima-media disruption at the proximal and distal anastomosis of the aorta. We analyzed the perioperative course and echocardiographical, radiological, and clinical outcomes up to one year. Additionally, we investigated the adhesive potential of the FSP in vitro. **Results** In vitro, the adhesive strength of the FSP was 60 N/cm². In-hospital mortality was 8.3% (n = 1), recovery was satisfactory with no major neurologic events, mean ICU stay was 13.6 \pm 6.0 days, mean hospital stay was 20.7 \pm 4.4 days. A total of 7.0 \pm 2.6 RBC, 3.4 \pm 1.5 platelets, and 8.0 \pm 4.3 FFP were transfused. One-year survival was 83.3%. In 6/6 DeBakey II dissections the intimal tear was completely resected, in 2/6 DeBakey I dissections the false lumen in the descending aorta completely collapsed. No redissections and no relevant aortic valve insufficiencies were seen during follow-up. **Conclusion** This analysis shows that FSP using a collagen matrix double layer coated with fibrinogen/thrombin is feasible, safe, and effective in repairing the dissected aortic tissue. It results in continuous reinforcement of aortic tissue and completely avoids the need for conventional glues. © 2013 Wiley Periodicals, Inc.