Treatment of perigraft seroma in expanded polytetrafluoroethylene grafts by sequential fibrin sealing of the outer graft surface.

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Abstract:

BACKGROUND: The recommended standard for treatment of perigraft seroma (PS) is the graft removal and the reconstruction using an alternative prosthesis. We assumed that a fibrin sealing of the outer surface of expanded polytetrafluoroethylene (ePTFE) grafts would prevent leakage and used this technique in the treatment and prevention of PS.

METHODS: Over a 10-year period, 24 patients were treated for PS after subcutaneous implantation of ePTFE grafts (14 arterial bypasses and 10 arteriovenous grafts). Affected graft segments were temporarily removed and underwent sequential fibrin sealing technique before reimplantation. In addition, an in vitro experiment was carried out to demonstrate the efficacy of fibrin sealing to prevent leakage through the ePTFE graft wall, after its hydrophobic barrier was destroyed by filling with saline solution under pressure.

RESULTS: A cure of PS was observed in 20 patients (84%) at a follow-up period of 37 +/- 18 months. A later graft infection was not seen in any patient. The patency rate of reconstructed grafts appears to be unaffected. In the performed experiment we have demonstrated an elimination of leakage through the graft wall by the fibrin sealing technique.

CONCLUSIONS: Sequential fibrin sealing of the outer surface is an effective way to treat PS in ePTFE grafts. However, failure of this treatment cannot be precluded. Further studies are necessary

that may provide further insights into the causes and best treatment of PS and the possibly important role of PS in the aneurysm enlargement after complete endovascular exclusion with ePTFE endografts.