Prevention of subcutaneous seroma formation in open ventral hernia repair by using a new lowthrombin fibrin sealant.

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Abstract:

Background: Seroma formation is a frequent postoperative complication following open ventral hernia repair (OVHR), especially in cases requiring wide subcutaneous dissection (WSD). The aim of this study was to evaluate the effectiveness of a new low- thrombin fibrin sealant for seroma prevention. Methods: Twenty consecutive patients with median incisional hernias who required OVHR with WSD > 100 cm² were included in the study. Ten patients comprised the fibrin glue group (FG) and received either a sublay mesh or an open intraperitoneal onlay mesh (IPOM) repair with ventral fascial closure, as well as a subcutaneous application of low- thrombin fibrin sealant. This cohort of patients was compared to a control group (CG) of 10 consecutive patients undergoing previously OVHR without prevention of seroma formation with regard to outcome measures such as seroma formations, wound complications, seroma aspirations or unplanned re-operations, and length of hospital stay. Results: Though the median extent of subcutaneous dead space was larger in the FG than in the CG (266 vs. 174 cm²; p = 0.012) seroma formation occurred in none of the FG vs. 4 of the CG patients (p = 0.003). Postoperative complications occurred in 1of the FG vs. 4 of the CG patients (p = 0.05). Three patients of the CG and none of the FG required a re-operation within 30 days (p < 0.001). Conclusions: The use of a new low- thrombin fibrin glue demonstrated a protective effect against formation of seromas and decreased the rate of wound complications in OVHR.