Prevention of subcutaneous seroma formation in open ventral hernia repair using a new low-thrombin 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: A total of 60 consecutive patients with median incisional hernias who required OVHR with WSD of at least 100 cm(2) were included in the prospective non-randomized study. The fibrin glue group (FG) comprised 30 patients who had undergone OVHR with sublay mesh placement as well as subcutaneous application of low-thrombin fibrin sealant. This cohort of patients was compared with a control group (CG) of 30 consecutive patients who had previously undergone OVHR without prevention of seroma formation with regard to outcome measures such as seroma formations and wound complications.

RESULTS: Though the median extent of subcutaneous dead space was larger in the FG than in the CG (229 vs.174 cm(2); $p = 0.012$), seroma formation occurred in three of the FG versus 16 of the CG patients ($p = 0.003$). Postoperative wound complications occurred in two of the FG versus nine of the CG patients ($p = 0.002$). Four patients in the CG and none in the FG required re-operation within 30 days ($p < 0.001$).

CONCLUSION: 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, with consecutive shorter length of hospital stay (5.8 vs. 10.4 days; $p = 0.04$).