

The effect of TISSEEL fibrin sealant on seroma formation following complex abdominal wall hernia repair: a single institutional review and derived cost analysis.

Authors: Azoury SC, Rodriguez-Unda N, Soares KC, Hicks CW, Baltodano PA, Poruk KE, Hu QL, Cooney CM, Cornell P, Burce K, Eckhauser FE

Publication Date: 2015

Abstract:

PURPOSE: The authors evaluated the ability of a fibrin sealant (TISSEEL™: Baxter Healthcare Corp, Deerfield, IL, USA) to reduce the incidence of post-operative seroma following abdominal wall hernia repair.

METHODS: We performed a 4-year retrospective review of patients undergoing abdominal wall hernia repair, with and without TISSEEL, by a single surgeon (FEE) at The Johns Hopkins Hospital. Demographics, surgical risk factors, operative data and 30-day outcomes, including wound complications and related interventions, were compared. The quantity and cost of Tisseel per case was reviewed.

RESULTS: A total of 250 patients were evaluated: 127 in the TISSEEL group and 123 in the non-TISSEEL control group. The average age for both groups was 56.6 years ($P = 0.97$). The majority of patients were female (TISSEEL 52.8%, non-TISSEEL 56.1%, $P = 0.59$) and ASA Class III (TISSEEL 56.7%, non-TISSEEL 58.5%, $P = 0.40$). There was no difference in the average defect size for both groups (TISSEEL $217 \pm 187.6 \text{ cm}^2$, non-TISSEEL $161.3 \pm 141.5 \text{ cm}^2$, $P = 0.36$). Surgical site occurrences occurred in 18.1% of the TISSEEL and 13% of the non-TISSEEL group ($P = 0.27$). There was a trend towards an increased incidence of seroma in the TISSEEL group

(TISSEEL 11%, non-TISSEEL 4.9%, $P = 0.07$). A total of \$124,472.50 was spent on TISSEEL, at an average cost of \$995.78 per case.

CONCLUSIONS: In the largest study to date, TISSEELTM application offered no advantage for the reduction of post-operative seroma formation following complex abdominal hernia repair. Moreover, the use of this sealant was associated with significant costs.