

MEDTRONIC REVIEW: CLINICAL PAPER SUMMARY

TITLE	Total Sealing Technique (TST) with a bipolar vessel sealing system reduces lymphorrhea and seroma formation for axillary lymph node dissection in primary breast cancer
AUTHORS	Ikeda, Naoya; Akahori, Takahiro; Yokotani, Tomoyo; Fuhii, Tomomi; Sho, Masayuki
JOURNAL	Surgery Open Science (2024), https://doi.org/10.1016/j.sopen.2024.01.011

INTRODUCTION

Prolonged drainage is a common occurrence after ALND, primarily due to lymphatic leakage. In addition, the presence of seroma often leads to delays in the administration of postoperative adjuvant chemotherapy even after drain removal. The authors have developed a novel technique called total sealing technique (TST) using the latest bipolar vessel sealing system (BVSS; LigaSure™ Exact Dissector) to effectively reduce lymphatic leakage and seroma formation during total mastectomy with ALND. Instead of beginning the procedure with electrocautery excision of the axillary fat pad, TST uses the LigaSure™ Exact Dissector (LGSED) (Medtronic plc. Dublin, Ireland) to identify and dissect the natural tissue layers while completely sealing all dissected tissue prior to resection.

PURPOSE OF THE STUDY

The purpose of this study was to evaluate the potential of a novel surgical procedure, the Total Sealing Technique (TST), using the latest bipolar vessel sealing system (BVSS; LigaSure™ Exact Dissector) to reduce lymphatic leakage and seroma formation after electrocautery axillary lymph node dissection (ALND) in breast cancer surgery.

METHODS

- Between December 1, 2015 and November 30, 2021, 165 patients underwent ALND. Of these, 71 consecutive patients who underwent total mastectomy with ALND. In the first 3 years, 36 patients underwent conventional ALND, and in the following 3 years, ALND was performed with TST. Partial mastectomy patients were excluded.
- The following factors were compared to assess the impact of TST: operation time, blood loss, total drainage volume, mean time to drain removal, postoperative hospital stay, mean time to initiation of postoperative chemotherapy, and postoperative complications in each group.

RESULTS

- TST significantly reduced:
 - drainage volume (360.5 vs. 820.6 mL, $p < 0.001$),
 - days to drain removal (4.8 vs. 6.8 days, $p < 0.001$),
 - postoperative hospital stay (5.9 vs. 9.6 days, $p < 0.001$),
 - the incidence of seroma (28.6 % vs. 65.9 %, $p = 0.001$),
 - time to chemotherapy initiation (33.1 vs. 61.4 days, $p < 0.001$) compared to conventional electrocautery.
- There was no significant difference observed between the TST and conventional electrocautery groups in terms of:
 - total operative time (149.5 vs. 146.0 min, $p = 0.931$)
 - mean blood loss (31.3 ± 43.6 vs. 42.6 ± 45.7 mL, $p = 0.153$).

CONCLUSION

TST in total mastectomy with ALND effectively decreased the incidence of lymphorrhea and seroma formation. The authors reported that it can be recommended for total mastectomy with ALND.

****THIS CONCLUDES THE CLINICAL SYNOPSIS OF THIS PUBLICATION****