Intraoperative Gross Pathologic Inspection Can Reduce the Need for Margin Re-excision After Breast Conserving Surgery Regardless of Localization Technique

Kelly Carman DO, Joslyn M Albright, MD, Barbara L Krueger MD, Jami Walloch MD, Ameer M Gomberawalla MD

Department of Breast Surgery – Advocate Christ Medical Center– Oak Lawn, IL

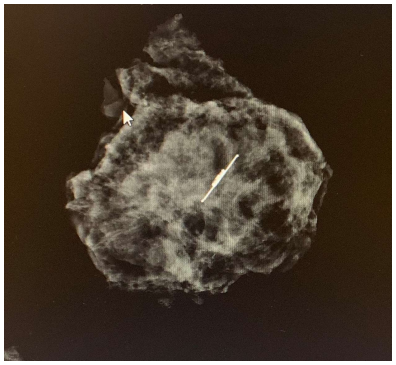
Advocate Christ Medical Center
Tomorrow starts today.

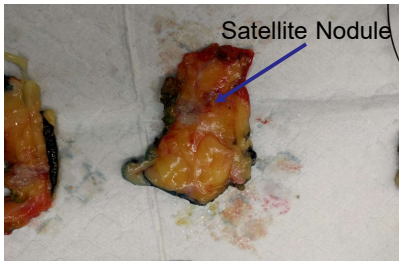
INTRODUCTON

- Reoperation for re-excision following breast conserving therapy is a common challenge amongst all breast surgeons, with commonly published rates ranging from 10-20%
- Gross pathologic inspection has been previously reported by our institution to reduce margin re-excision regardless of surgeon experience
- Our institutional standards:
  - Use of immediate gross inspection with intraoperative specimen radiograph and pathologic consultation as a universal standard
  - SaviScout™ localization of nonpalpable tumors since January 2018
- **We hypothesize that gross pathologic inspection with intraoperative specimen radiograph results in a low re-excision rate after breast conserving surgery (BCS) regardless of the method of localization**

METHODS

- **Prospective review**
  - Consecutive patients diagnosed with invasive ductal carcinoma (IDC), invasive lobular carcinoma (ILC) and ductal carcinoma in situ (DCIS)
  - BCS from 2016 to 2019
  - Single institution by three surgeons
  - **Surgeries during initial 18 months utilized needle localization and subsequent 18 months utilized SaviScout™**
  - Intraoperative radiograph and formal gross evaluation by the pathologist with the surgeon in attendance on all specimens
    - Additional shave margins based off these assessments
  - Criteria for reoperation:
    - Ink on tumor for IDC/ILC
    - Within 2mm for pure DCIS
  - Groups were compared using paired t-test statistical analysis
  - *p*-value of 0.05 was considered statistically significant
  - Outcomes measured were rates of re-excision





RESULTS

- 717 cases of BCS
- Mean patient age 62.8 years (±11.4)
- 12.2 % (n=88) of patients underwent neoadjuvant therapy
- **367 patients underwent needle localization while 350 patients underwent localization with a SaviScout™**
  - Both groups similar in regard to patient and tumor variables including use of neoadjuvant therapy, tumor size and localization technique
- The average distance of negative margins was 8.7mm
- **Total re-excision rate 5.3% (n=38)**
- **Re-excision rate was 5.2% for needle localization and 5.4% for SAVI Scout**
- Neither diagnosis (IDC, ILC or DCIS), nor localization device, significantly differed among those who had re-excisions and those who did not

DISCUSSION

- **By utilizing a combination of formal gross inspection with the pathologist intraoperatively and specimen radiograph, both localization methods were able to achieve a similar re-excision rate**
- **These methods are easily implemented by many practices, and are an excellent tool for surgeons to reduce return to the operating room after BCS**

REFERENCES

Beakley, L., Albright, J., Krueger, B., et al. (2018, May 2-6) Intraoperative Gross Pathologic Inspection Can Reduce the Need for Margin Re-Excision After Breast Conserving Surgery Regardless of Surgeon Experience [Poster Presentation]. American Society of Breast Surgeons 19th Annual Meeting

Cabioglu, N., Hunt, K., Sahin, A., et al. (2007). Role for Intraoperative Margin Assessment in Patients Undergoing Breast-Conserving Surgery. Annals of Surgical Oncology 14: 1458 – 1471

DeSantis, C., Ma, J., Sauer, AG, et al. (2017). Breast cancer statistics, 2017, racial disparity in mortality by state. *CA: A Cancer Journal for Clinicians* 67 (6): 439-448

Gray, R., Pockaj, B., Garvey, E., Blair, S. (2018). Intraoperative Margin Management in Breast-Conserving Surgery: A Systematic Review of the Literature. *Annals of Surgical Oncology*. 25: 18-27

Lee, C.H, Carter, D. (1995) Detecting residual tumor after excisional biopsy of impalpable breast carcinoma: efficacy of comparing preoperative mammograms with radiographs of the biopsy specimen. American Journal of Roentgenology. 164 (1) 81-86

Morrow, M., Abrahamse, P., Hofter, T., et al. (2017). Trends in Reoperation After Initial Lumpectomy for Breast Cancer. Addressing Overtreatment in Surgical Management. *JAMA Oncol.* 3 (10): 1352-1357

Patel, S., Mango, V., Jadeja, P., et al. (2018). Reflector-guided breast tumor localization versus wire localization lumpectomies: A comparison of surgical outcomes. *Clinical Imaging* 47: 14-17

Pleijhuis, R., Graafland, M., Vries, J, et al. (2009). Obtaining Adequate Surgical Margins in Breast-Conserving Therapy for Patient's with Early-Stage Breast Cancer: current Modalities with Future Directions. *Annals of Surgical Oncology*. 16: 2717-2730

Srour, MK, Kim, S, Amersi, F, Giuliano, AE, Chung, A. Comparison of wire localization, radioactive seed, and Savi scout® radar for management of surgical breast disease. *Breast J*. 2019; 00: 1– 8. https://doi.org/10.1111/tbj.13499

Uecker, J., Bui, E., Foulkrod, K., et al. (2011). Intraoperative Assessment of Breast Cancer Specimens Decreases Cost and Number of Reoperations. The American Surgeon. 77 (3) 342-344

Kelly.Carman@advocatehealth.com