

Improved re-excision rates for lumpectomy for invasive breast cancer utilizing intraoperative ink and gross pathology

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Background

Several well-controlled studies have demonstrated significantly increased local recurrence rates in patients with low-stage breast carcinoma treated with breast conservation therapy in whom focally positive margins or close (<1 mm) margins were not re-excised.

Objective:

Current acceptable re-excision rates for margins after lumpectomy using “no tumor at ink” are 14%. Current conversion rates to mastectomy are 4%. (ASCO Abstract 508 June 5, 2017). Utilizing intraoperative ink and gross analysis of invasive breast cancer lumpectomies by the pathologist, we have significantly improved these rates.

Methods:

We retrospectively reviewed the intraoperative ink and gross evaluation for margins of 250 patients with specimens for breast cancer lumpectomies that had been obtained from 2 year period and studied the re-excision rate.

Two hundred and fifty patients received lumpectomies and all patients with invasive breast cancer underwent sentinel node biopsies between 2017-2018 at a single institution (Henry Mayo Newhall Hospital in Santa Clarita, California) by a single UCLA surgical oncologist with oncoplastic training.

Preoperative MRI, bracketing J wire placement for lesions over 2 cm and intraoperative ink and gross assessment by our dedicated breast pathologist were utilized for all invasive cancers. Biplaner specimen radiograms for J wire nonpalpable tumors was routinely performed but intraoperative ink and gross analysis was not utilized for pure DCIS lesions. Two millimeter final margins were deemed acceptable for both invasive and pure DCIS tumors. Frozen sections of the sentinel nodes for invasive lesions were also performed.

Results:

Out of total 250 lumpectomies performed, 5.2% (13/250) of patients with invasive breast cancer required separate re-excision for margins. 7.6% (19/250) of patients with pure DCIS required separate re-excision for margins. 1.6% (4/250) of patients were converted to mastectomy and 0.8% (2/250) required additional node dissection.

Our margin requirement for the ink and gross assessment was 5.0 mm and immediate directed re-excision at the time of initial surgery was performed to achieve these initial margins. Final margins of 2.0 mm were deemed acceptable for both invasive and pure DCIS tumors.

Conclusion:

Proper preoperative planning and ink and gross evaluation of margins by palpation and viewing under the magnifying lens by a dedicated breast pathologist at the time of surgery with appropriate communication with the surgeon utilizing immediate directed re-excisions is an accurate, simple, rapid and cost-effective method that greatly reduces the need for second surgery margin re-excisions.