

# **PREDICTING THE NEED FOR RE-EXCISION SURGERY AFTER BREAST-CONSERVING SURGERY AMONG PATIENTS WITH INVASIVE CANCER WITH OR WITHOUT ASSOCIATED DCIS IN THE ERA OF SSO-ASTRO GUIDELINES**

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## **GENERAL SURGERY**

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**BACKGROUND:** Until recently, there was no widely accepted definition of adequate margin width after breast-conserving surgery (BCS). The publication of SSO-ASTRO guidelines in 2014 (invasive cancer) and 2016 (DCIS) have standardized practice. Adoption of 2014 guidelines at the IWK has been associated with a decrease in re-excision rates. The purpose of this study was to predict the influence of 2016 DCIS guidelines on re-excision rates and identify predictors of re-excision surgery at our institution.

**METHODS:** This was a retrospective cohort study of all consecutive patients undergoing breast surgery for invasive cancer/DCIS at the IWK from Oct.1, 2014-Jan.1-2016. Exclusion criteria included neoadjuvant chemotherapy and bilateral/recurrent breast cancer. Primary outcomes examined included concordance with 2016 SSO-ASTRO guidelines and need for re-excision surgery after BCS.

**RESULTS:** Among 363 patients, 71 (19.6%) underwent mastectomy and 292 (80.4%) BCS; 46 (15.8%) required re-excision. Patients requiring re-excision were more likely to have larger tumors with lymphovascular invasion, higher grade, ER negative, HER2 positive, multifocality with extensive intraductal component (EIC) compared to no re-excision surgery. A multivariable model identified tumor size (OR 1.80,  $p=0.005$ ), multifocality (OR 14.29,  $p<0.001$ ) and EIC (8.84,  $p=0.004$ ) as independently associated with re-excision surgery. Adherence to SSO-ASTRO guidelines on DCIS margin width would have prevented 7 re-excisions but led to an additional 35.

**CONCLUSIONS:** This study has identified factors predictive of re-excision surgery. Patients with large tumors and a high likelihood of multifocal disease should be counselled on the potential of inadequate margins after BCS. The adoption of 2016 DCIS guidelines will likely lead to an increase in re-excision rates at our institution.