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MACROSCOPIC EVALUATION OF THE PATHOLOGICAL MARGIN IN PATIENTS WITH BREAST CANCER DURING BREAST-CONSERVING SURGERY

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Objective: Nearly 1/5 of women with breast cancer (BC) treated by breast-conserving surgery (BCS) require reoperation due to positive margins on final pathology. In our hospital practice, intraoperative macroscopic pathological margin evaluation (IMPME) of all lumpectomy specimens is routine. The objectives of the study were to assess the accuracy of the IMPME in a large study population of BC patients treated by BCS. **Methods:** Patients treated by BCS from 2015 to 2017 for invasive BC were included in a retrospective analysis. The diagnostic accuracy of IMPME in predicting margin involvement was calculated by determining its sensitivity (Se), specificity (Sp), negative predictive value (NPV), and false-negative rate (FNR). **Results:** In all, 543 women with 562 BCS were analyzed. There were 30 (5.5%) patients with multiple BC tumors and 17 (3.1%) patients with bilateral BC. Among them, 460 (81.7%) were invasive ductal carcinomas and 79 (14%) invasive lobular carcinomas. According to intrinsic subtype classification, 504 (89.7%) were luminal tumors, 44 (7.8%) were triple-negative tumors, and 14 (2.7%) were HER2-enriched breast tumors. The mean pathological tumor size was 12.2 mm (range: 1.5–40 mm). With a cutoff value of ≤1 mm for positive margin status with IMPME, the Se, Sp, NPV, and FNR were 65.9% (29/44), 66% (342/518), 95.8% (342/357), and 4% (15/357), respectively. There were 34.2% (192/562) BCS with intraoperative re-excision after IMPME examination. The secondary re-excision rate for final positive margins after BCS was 6.6% (37/562). **Conclusion:** In this study population, IMPME is not sensitive and specific enough to discriminate between negative and positive margins during BCS. Nevertheless, its NPV seems sufficiently accurate to exclude the presence of residual breast tumor tissue on the surgical specimen of patients treated with BCS, which represents an effective technique for evaluating the intraoperative margin in BC patients.

Keywords: Breast-conserving surgery.