



SWSC 2020 On-Demand Meeting Abstracts

22. A DECADE OF ULTRASOUND GUIDED BREAST CONSERVATION FOR MARGIN NEGATIVE RESECTION - RADIOACTIVE, AND MAGNETIC, AND INFRA RED OH MY ...

Presenter: Rakhshanda Rahman MD | Texas Tech University Health Sciences, Lubbock
Y Puckett, Z Habrawi, S Crawford, R Layeequr Rahman

Background: Positive margins after breast conservation expose breast cancer patients to twice the risk of ipsilateral recurrence compared with those with negative margins. Re-excision rate up to 50% has been reported. The oncologic goal of margin negative breast conservation requires adequate localization of tumor. Technologic advancement has led to radio-isotope, infra-red light, and magnetic seed localization. Ultrasound guidance remains most convenient, logistically feasible and most cost-effective method to localize the tumor and assess margins intraoperatively.

Methods: A prospectively maintained breast cancer database over a decade was queried to determine the margin re-excision rate and the closest margins of resection in breast cancer patients undergoing breast conservation therapy to document the success of ultrasound guidance for tumor localization and intraoperative sonographic margin assessment. Methods of tumor localization, margin re-excision and closest margins were analyzed. Rate of conversion to mastectomy was determined.

Results: A total of 945 breast cancer patients were treated at a university-based Breast Center of Excellence over a decade 9 January 1, 2009 – December 31, 2018). The median (25th -75th centile) age of the patients was 61 (52, 69) yrs. One hundred and forty nine (15.8%) patients had ductal carcinoma in situ; 712 (75.3%) had invasive ductal carcinoma, and 63 (6.7%) had invasive lobular carcinoma. Clinical stage distribution was: T1= 372 (39.4%); T2=257 (27.2%); T3=87 (9.2%). Five hundred and eighty three (61.7%) patients underwent breast conservation. The median (25th -75th centile) closest margin was 6 (2.5, 10.0) mm. Thirty five (6.0%) of patients underwent margin re-excision after partial mastectomy, 9 (25%) of which were converted to mastectomy. Tumor localization was achieved with ultrasound in 521 (89.4%) patients and with wire localization in 62 (10.6%) patients. The median (25th -75th centile) closest margin in wire localization group was 5.0 (2.0, 8.5) mm and in ultrasound group was 5.0 (2.0, 8.0) mm [$p=0.6635$]. The re-excision rate in wire localization group was 14.5% and in ultrasound group was 4.9% [$p=0.0073$]. The unadjusted Odds Ratio (95% CI) for margin revision in wire localized group compared with ultrasound was 3.2 (7.14, 1.42) [$p=0.0045$]; multivariate adjustment for age, tumor volume, type of cancer, and T stage did not alter this association for adjusted OR (95%) of 4 (9.09, 1.7) [$p=0.0013$].

Conclusion: Ultrasound guidance for localization of breast cancer remains the most convenient and feasible option for margin negative breast conservation.