



Western Surgical Association 2020 Annual Meeting

Monday, November 9, 2020
4:00pm – 6:15pm Pacific Time
– Virtual Meeting --

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6. DOES LOCALIZATION TECHNIQUE MATTER FOR NON-PALPABLE TUMORS?

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AB Chagpar, C Garcia-Cantu, MM Howard-McNatt, JS Gass, E Levine, A Chiba, SS Lum, R Martinez, E Brown, KK Gallagher, AI Willis, S Pandya, M Murray, A Fenton, V Haddad, N Livingstone Solomon, DW Ollila, M Senthil, E Dupont, on behalf of the SHAVE2 authors

Background: The majority of breast cancers diagnosed in the US are non-palpable, requiring a localization technique to guide breast conserving surgery. There are several techniques for localization (including wires, seeds, etc), but there has not been robust comparisons of these techniques in terms of margin positivity and volume of tissue resected.

Methods: Between 2011-2013 and 2016-2018, two randomized controlled trials involving 10 centers across the US accrued 631 patients with stage 0-3 breast cancer, all of whom underwent breast conserving surgery. Of these, 566 (89.7%) had non-palpable tumors for which localization was required; of these 44 (7.7%) had no further tumor at the time of surgery. The remaining 522 patients formed the cohort of interest. The localization technique was left to the discretion of the individual surgeon. We compared margin positivity and volume of tissue resected between various localization techniques.

Results: The majority of the patients ($n = 465$; 89.1%) had wire localization (WL); 50 (9.6%) had radioactive seed (RS) localization, and 7 (1.3%) had Savi-Scout (SS) localization. Patient age ($p = 0.160$) and presence of DCIS ($p = 0.630$) was similar across the groups, although tumor size tended to be larger in wire localized specimens (median 1.6 cm vs. 1.3 cm vs. 0.8 cm for WL, RS, and SS groups respectively, $p = 0.002$). Surgeons were permitted to take selective margins as they saw fit after resecting the initial specimen; this was less frequent in the WL group (43.9% vs. 66.0%, 71.4% in WL, RS, and SS groups, respectively, $p = 0.005$). The volume of tissue removed (including selective margins, where taken) was not significantly different between the three groups (73.1 cm³ vs. 78.9 cm³ vs. 70.5 cm³ for the WL, RS and SS groups respectively, $p = 0.340$), nor was there a difference in terms of margin positivity on bivariate analysis (37.8% vs. 28.0% vs. 28.6% for the WL, RS, and SS groups respectively, $p = 0.339$). On multivariate analysis, margin status was affected by tumor size (OR = 1.288; 95% CI: 1.124-1.477, $p < 0.001$), but not by type of localization ($p = 0.658$).

Conclusion: While there are a number of methods for tumor localization, choice of technique does not seem to influence volume of tissue resected nor margin status.