**BACKGROUND**

- Axillary management of nodal disease can have a significant impact on locoregional control and survival.
- Recent clinical trials suggest that a positive sentinel lymph node biopsy in select patients no longer mandates completion axillary lymph node dissection (ALND).
- In patients undergoing mastectomy found to have sentinel node metastasis, axillary radiotherapy may provide comparable regional control, with less morbidity.
- The combination of ALND and axillary radiotherapy may also be considered.
- Our objective was to perform a comparative evaluation of the management of regional metastasis following SLNB in clinically node negative patients undergoing mastectomy to compare clinical outcomes among the different modalities of axillary management.

**METHODS**

- In a retrospective review of the National Cancer Database, the population consisted of women with T1-2 primary invasive breast cancer from 2012-2015 who were clinically node negative with positive lymph node metastasis at the time of a mastectomy.
- Patients were evaluated based on clinically significant demographic characteristics and the axillary treatment strategies of ALND alone, post mastectomy radiation therapy (PMRT) alone, combined ALND + PMRT, or no further treatment (NFT).
- A multivariable analysis and Cox proportional hazards ratio were performed.

**RESULTS**

- 16,295 women with a positive SLNB at the time of mastectomy were identified, of which 35% proceeded to have an ALND, 12% PMRT, 33% combination therapy, and 19% NFT.
- On multivariable analysis, patients <40 were less likely to have NFT (OR 1.3, CI 1.1-1.6), and ≥70 was more likely (OR 0.6, CI 0.5-0.7).
- Patients treated at high-volume facilities (OR 0.7, CI 0.6-0.8) were less likely to be associated with NFT when compared to low or medium volume centers (OR 0.9, CI 0.8-1.0).
- Tumors with higher grade and higher nodal involvement were less likely to be associated with NFT (p<0.0001).
- There was a 48% decrease in mortality in patients treated with combined therapy compared to NFT (HR 0.52, CI 0.40-0.68).
- No significant impact on mortality was observed with ALND alone.

**CONCLUSIONS**

- In patients undergoing mastectomy found to have sentinel node metastasis, combination therapy with both PMRT and ALND was associated with decreased mortality.
- Further characterization of patient and tumor features may help identify patients best suited for combined therapy.