

16. Management and Outcomes in Breast Cancer Patients With 1-of-1 and 2-of-2 Positive Sentinel Nodes

Walker Lyons, MD¹; Elizabeth M Fish, DO²; Richard Bleicher, MD³; Cecilia Chang, MS⁴; Alycia So, MD⁵; Andrea Porpiglia, MD⁶; Allison Aggon, DO⁷; Austin DP Williams, MD⁸

¹Fox Chase Cancer Center, Philadelphia, PA, US; ²Fox Chase Cancer Center, Philadelphia, PA, US; ³Fox Chase Cancer Center, Philadelphia, PA, US; ⁴North Shore University Health System, Evanston, IL, US; ⁵Fox Chase Cancer Center, Philadelphia, PA, US; ⁶Fox Chase Cancer Center, Philadelphia, PA, US; ⁷Fox Chase Cancer Center, Philadelphia, PA, US; ⁸Fox Chase Cancer Center, Philadelphia, PA, US

INTRODUCTION: ACOSOG Z0011 and AMAROS found that axillary lymph node dissection (ALND) conferred no benefit to patients with 1-2 positive sentinel nodes (+SLNs). There is apprehension to omit ALND for patients in whom only 1 or 2 SLNs are retrieved and all are positive due to concern of missing more significant disease that would impact adjuvant therapies and outcomes. This study assesses current practice patterns and pathologic findings when ALND is pursued. **METHODS:** From the National Cancer Database, we identified female patients with cT1-3N0 breast cancer who underwent upfront surgery with sentinel lymphadenectomy (SLNB) from 2018-2021. Patients with ≤ 2 SLNs were included and stratified based on the number positive/removed: 0/1, 1/1, 1/2, 2/2. We analyzed rates, results and factors associated with ALND. **RESULTS:** A total of 102,802 patients met inclusion criteria, distributed into analysis groups as follows: 0/1 – 79,106 (77%), 1/1 – 10,549 (10%), 1/2 – 10,068 (10%), 2/2 – 3,079 (3%). Completion ALND was most commonly performed for patients with 2/2 +SLNs (41%); 26% of those with 1/1+SLNs, 19% of 1/2 +SLNs and 6% of 0/1 +SLNs underwent ALND. On multivariable analysis, adjusting for pertinent clinicopathologic features, the strongest independent predictor of ALND was SLN status (Table). Among patients who underwent ALND, 24% had additional positive nodes with the highest rate being among those with 2/2 +SLNs (56%) followed by 1/1 (40%), 1/2 (27%) and 0/1 (7%). The mean number of additional +LNs identified differed among SLN groups: 0/1 – 0.15, 1/1 – 1.6, 1/2 – 0.63, 2/2 – 2.6 ($p < 0.001$). Among SLN+ patients with triple negative breast cancer or HER2+ cancer, ALND was not associated with differences in the rates of adjuvant chemotherapy or radiation. Among the 16,288 SLN+, HR+HER2- patients older than 50, ALND was associated with higher rates of adjuvant chemotherapy (43% vs. 24%, $p < 0.001$) despite no difference in 21-gene recurrence scores (ALND: 16.3 vs. no ALND: 16.1, $p = 0.43$). With a median follow up of 35.4 months, ALND was not associated with improved overall survival in all nodal groups. **CONCLUSIONS:** ALND is currently being performed at higher-than-expected rates for many patients with ≤ 2 +SLNs and may be associated with medical overtreatment in HR+HER2- patients. Multidisciplinary discussion of cases in which all SLNs are positive and ongoing provider education are needed to reduce the rates of axillary overtreatment.

Table. Multivariable analysis of factors associated with undergoing completion axillary lymph node dissection.

	OR	95% CI	p
SLN status			
0/1 (ref)	-	-	-
1/1	3.802	3.542-4.081	<.0001
1/2	2.562	2.374-2.765	<.0001
2/2	6.762	6.094-7.502	<.0001
Breast surgery			
Partial mastectomy (ref)	-	-	-
Mastectomy	3.487	3.300-3.684	<.0001
Clinical Tumor Stage			
cT1 (ref)	-	-	-
cT2	1.174	1.104-1.249	<.0001
cT3	1.496	1.288-1.738	<.0001
Lymphovascular Invasion	1.227	1.148-1.312	<.0001
Tumor Grade			
Low (ref)	-	-	-
Intermediate	1.091	1.020-1.166	0.0111
High	1.199	1.101-1.306	<.0001
Receptor Subtype			
HR+/HER2- (ref)	-	-	-
HER2+	1.083	0.954-1.230	0.2196
TNBC	1.156	1.030-1.297	0.0140