

The Decline of Axillary Lymph Node Dissection Rates: Implication on Operative Times and Outcomes

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Objectives: Management of the axilla in invasive breast cancer (IBC) has shifted from axillary lymph node dissection (ALND) towards sentinel lymph node biopsy. A study using the ACS-NSQIP database showed a national downward trend in ALND procedures from 2007-2014. We hypothesized a continued downward trend in ALNDs performed for IBC, which may correlate with an increase in operative time and morbidity.

Materials and Methods: Patients with IBC were identified in the ACS-NSQIP database from 2007 to 2017 using ICD codes. The yearly rate of ALND in this population was determined using CPT codes. Average operative time, 30-day mortality, superficial and deep surgical site infection, wound dehiscence, transfusion requirements, and length of stay was determined per year. Cochran-Armitage trend tests and linear regressions were used to determine presence of significant change in the included variables.

Results: The rate of ALND in patients with IBC significantly decreased over the study period ($p < 0.001$). There was no significant trend in rates of superficial or deep surgical site infection, wound dehiscence, or 30-day mortality and there was no significant change in average operative times over the 10 year period. Results showed a significant decrease in reoperation rates ($p < 0.001$) and a significant increase in perioperative transfusions ($p < 0.001$).

Conclusions: The decline in ALND for IBC does not correlate with an increase in operative times or surgical morbidity within the NSQIP population, contradicting our hypothesis. This suggests that surgeons are still performing these procedures safely and efficiently.

Table 1. Patient Surgical Outcomes

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	p-value
ALND	3578(33.2%)	4196 (33.48%)	4585(30.04%)	4200 (27.87%)	3631(23.66%)	3967 (22.12%)	4191 (20.11%)	3946(18.51%)	3020 (17.02%)	4226(16.33%)	4087 (14.9%)	<0.001
SSI	67 (1.87%)	91 (2.17%)	99(2.16%)	89(2.12%)	89(2.45%)	87(2.19%)	81 (1.93%)	99 (2.51%)	64 (2.12%)	95 (2.25%)	90(2.2%)	0.4
Infection	20(0.56%)	29(0.69%)	36(0.79%)	29(0.69%)	30(0.83%)	27 (0.68%)	31 (0.74%)	15(0.38%)	24 (0.79%)	35(0.83%)	23 (0.56%)	0.848
Wound Dehiscence	9(0.25%)	18 (0.43%)	23(0.5%)	11(0.26%)	10 (0.28%)	18 (0.45%)	21 (0.5%)	17(0.43%)	12(0.4%)	25(0.59%)	14 (0.34%)	0.225
Death	3(0.08%)	5(0.12%)	3 (0.07%)	9(0.21%)	6(0.17%)	4 (0.1%)	5(0.12%)	1 (0.03%)	1 (0.03%)	1 (0.02%)	4 (0.1%)	0.117
RTOR	306 (8.55%)	278 (6.63%)	314 (6.85%)	231 (5.5%)	165 (4.54%)	174 (4.39%)	191 (4.56%)	124 (3.14%)	116 (3.84%)	158 (3.74%)	131 (3.21%)	<0.001
Transfusion	5(0.14%)	6 (0.14%)	4 (0.09%)	55 (1.31%)	70 (1.93%)	71 (1.79%)	68 (1.62%)	54 (1.37%)	39 (1.29%)	58(1.37%)	42(1.03%)	<0.001

ALDN_Axillary Node Dissection, SSI-Surgical Site Infection, RTOR-Return To Operating Room