Trends in Axillary Lymph Node Dissection Rates in Male Invasive Breast Cancer

Arielle Stafford, MD[1], Nadia Nocera, MD[2], Chang Lui, PHD, MA[1], Kirsten Edmiston, MD[1], Constanza Cocilovo, MD[1], Robert Cohen, MD[1], Sara Bruce, MD[1], Lucy De La Cruz, MD[1]
[1]Department of Surgery, Schar Cancer Institute, Inova Health System, Falls Church, VA [2] Department of Surgery, Rowan SOM, Stratford, NJ **Contact:** Arielle.Stafford@inova.org

Background

Management of the axilla in invasive breast cancer (IBC) has shifted away from radical surgery such as axillary lymph node dissection (ALND) towards less invasive procedures, such as sentinel lymph node biopsy[1]. A previous study utilizing the ACS-NSQIP database showed an overall national downward trend in ALND procedures being performed in women from 2007-2014[2].
We hypothesize that there has also been a national downward trend in ALND procedures in the male population.

Results

A total of 200,132 patients were identified with IBC, 1.17% (2,024) of which were male. The average age was 64.9 years old.
- 25.26% of all patients underwent ALND
- 25.09% of all female patients underwent ALND
- 39.62% of all male patients underwent ALND

The percentage of all, female, and male patients with IBC undergoing ALND significantly decreased over the study ($p<0.001$)
There was an average annual decrease of 1.81% within the male population and 2.01% within the female population.

Axillary Lymph Node Dissection Rate in Patients with Invasive Breast Cancer

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total	*p-value*
Total IBC	10777	12534	15264	15069	15345	17930	20839	21318	17746	25886	27424	172708	
Total 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%)	43627 (25.26%)	**<0.001**
Female IBC	10670	12402	15106	14887	15199	17765	20634	21116	17558	25616	27155	170684	
Female ALND	3529 (33.07%)	4127 (33.28%)	4513 (29.88%)	4110 (27.61%)	3570 (23.49%)	3905 (21.98%)	4114 (19.94%)	3870 (18.33%)	2958 (16.85%)	4126 (16.11%)	4003 (14.74%)	42825 (25.09%)	**<0.001**
Male IBC	107 (0.99%)	132 (1.05%)	158 (1.04%)	182 (1.21%)	146 (0.95%)	165 (0.92%)	205 (0.98%)	202 (0.95%)	188 (1.06%)	270 (1.04%)	269 (0.98%)	2024 (1.17%)	
Male ALND	49 (45.79%)	69 (52.27%)	72 (45.57%)	90 (49.45%)	61 (41.78%)	62 (37.58%)	77 (37.56%)	76 (37.62%)	62 (32.98%)	100 (37.04%)	84 (31.23%)	802 (39.62%)	**<0.001**

IBC - Invasive Breast Cancer, ALND- Axilary Lymph Node Dissection

Methods

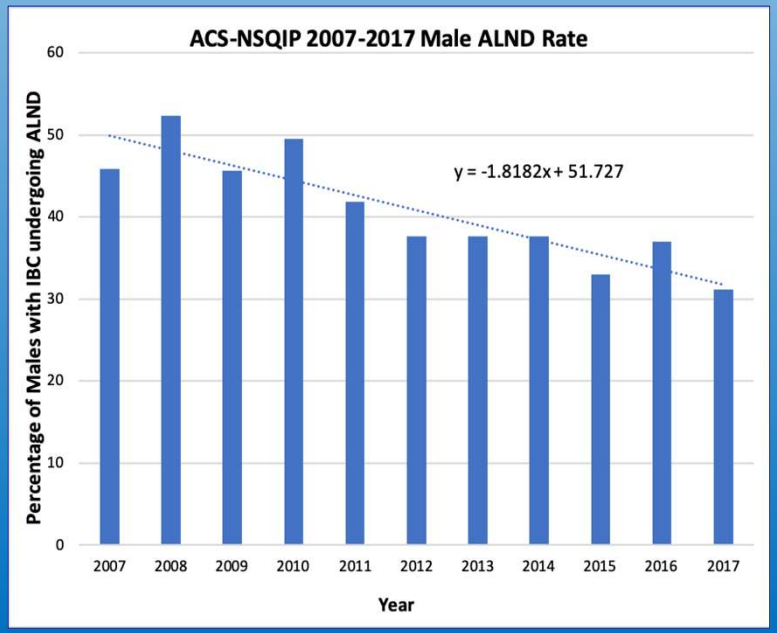
Male Patients with IBC were identified in the ACS-NSQIP database (2007 to 2017)

Included ICD-9 & ICD-10 codes:
- Malignant neoplasm of the female breast
- Malignant neoplasm of male breast

Included CPT codes were identified:
- Partial mastectomy w/ axillary lymphadenectomy (19302)
- Modified radical mastectomy (19307)
- Radical mastectomy (19305,19306)
- Superficial axillary lymphadenectomy (38740)
- Complete axillary lymphadenectomy (38745)

Outcomes:
- % of patients with IBC undergoing ALND per year
- % of male patents with IBC undergoing ALND per year

A Cochran-Armitage trend test was used to determine if there was any significant increase or decrease in the rate of ALND over the included years.



Conclusions

While de-escalation of breast and axillary management in female breast cancer patients has been reported over the years, the same has not been noted in the management of male breast cancer patients, with mastectomy being more prevalent. Interestingly, this study has demonstrated that there is a national downward trend in ALND procedures in men with IBC similar that seen in women. However, the average yearly decrease was slightly lower than in women (1.81% vs. 2.01%) and male patients had a higher rate of ALND overall during the study period (39.62% vs. 25.09%). We hypothesize that this is because men present at a later stage than female patients and are more likely to have axillary involvement, however, this data is not available within the NSQIP database. Future research will be needed to assess this hypothesis.

References

1. Giuliano AE. Axillary Dissection vs No Axillary Dissection in Women With Invasive Breast Cancer and Sentinel Node Metastasis: A Randomized Clinical Trial. *JAMA*. 2011;305(6):569. doi:10.1001/jama.2011.90
2. Nocera NF, Pyfer BJ, De La Cruz LM, Chatterjee A, Thiruchelvam PT, Fisher CS. NSQIP Analysis of Axillary Lymph Node Dissection Rates for Breast Cancer: Implications for Resident and Fellow Participation. *Journal of Surgical Education*. 2018;75(5):1281-1286. doi:10.1016/j.jsurg.2018.02.020