



Treatment Trends of Patients with Occult Primary Breast Cancer: An NCDB Study

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Background

Occult primary breast cancer (OPBC) occurs when patients present with axillary nodal metastases consistent with breast carcinoma without any detectable primary breast tumor (pT0N+) despite full clinical and radiological assessment.

- OPBC is a rare diagnosis, comprising less than 0.3% of all newly diagnosed breast cancers¹
- Historically, all patients underwent modified radical mastectomy (MRM), however a growing number of clinicians are forgoing mastectomy and treating patients with axillary lymph node dissection (ALND) followed by whole breast radiation.
- Available prognostic data vary widely, with 5-year overall survival ranging from 60-100%²

Objective: Determine demographics, tumor characteristics, and patterns of care of patients with OBC who had axillary metastasis using a population-based database.

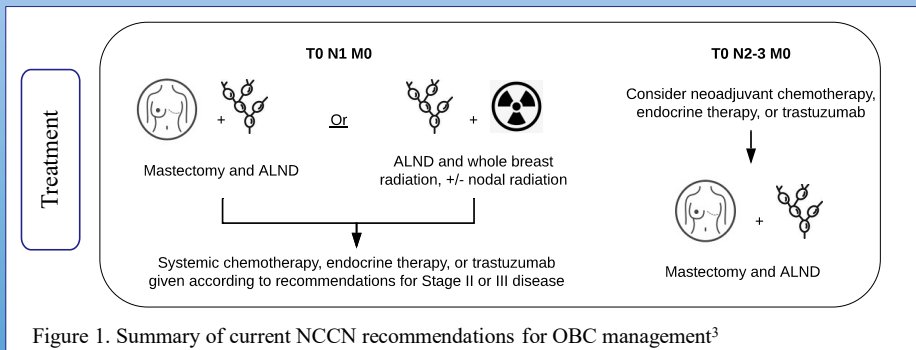


Figure 1. Summary of current NCCN recommendations for OBC management³

Methods

National Cancer Database Retrospective Analysis

Included years: 2010-2016

Inclusion Criteria

T0, N+ (N1-N3), M0 Female breast cancer patients

Included Variables:

Demographics: Age, Race, Comorbidity Score, Income, Education, Treatment Center

Cancer Characteristics

Nodal stage, Hormone receptor & HER2 receptor status

Treatment Outcomes:

Surgery MRM vs. ALND; Neoadjuvant systemic therapy; Chemotherapy; Radiation

References

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Results

Demographics & clinical characteristics

890 patients with occult primary breast cancer

- Mean age: 60.3 years; 78.4% Caucasian; 83% with comorbidity score of 0

Nodal Stage: N1 - 66%, N2 -22.2%, N3 - 11.5%

Treatment Center: Comprehensive community – 42.5%, Academic – 30.7%, NCI - 12.5%, Community- 10%

Tumor Subtype: HR(+)HER2(-) 44.2%, HR(-)HER2(-) 21.3%,

Treatment Outcomes

- A total of 414 patients (46.5%) underwent MRM and 476 patients underwent ALND (53.4%)
- Academic centers were most likely to perform ALND alone vs. MRM (62.6% vs. 37.4%)
- Community centers were least likely to perform ALND alone vs. MRM (37.0% vs. 63.0%)
- Patients undergoing ALND were less likely to have neoadjuvant systemic therapy (5.3% vs. 39.9%) and chemotherapy (79.2% vs. 84.8%) than patients undergoing MRM, but more likely to receive radiation (68.1% vs. 59.2%)
- Factors such as age, race, comorbidity, clinical nodal stage or tumor subtype were not statistically different among treatment groups.

Practice Patterns in T0, cN+ Breast Cancer Stratified by Surgery Type

Treatment Variable	Overall	MRM	% of Total	ALND	% of Total	p
n	890	414	46.50%	476	53.50%	
Hospital category	% of Total	% of Category		% of Category		
Community	92 (10.3%)	58	63.0%	34	37.0%	<0.001
Comprehensive Community	378 (42.5%)	181	47.9%	197	52.1%	
Academic	273 (30.7%)	102	37.4%	171	62.6%	
NCI	111 (12.5%)	54	48.6%	57	51.4%	
Systemic neoadjuvant therapy	% of Total	% of MRM		% of ALND		
Yes	190 (21.3%)	165	39.9%	25	5.3%	<0.001
No	623 (70.0%)	204	49.3%	419	88.0%	
Unknown	77 (8.7%)	45	10.9%	32	6.7%	
Chemotherapy	% of Total	% of MRM		% of ALND		
Yes	728 (81.8%)	351	84.8%	377	79.2%	0.02
No	143 (16.1%)	61	14.7%	82	17.2%	
Unknown	19 (2.1%)	2	0.5%	17	3.6%	
Radiation	% of Total	% of MRM		% of ALND		
Yes	569 (63.9%)	245	59.2%	324	68.1%	0.03
No	317 (35.6%)	168	40.6%	149	31.3%	
Unknown	4 (0.4%)	1	0.2%	3	0.6%	

MRM - Modified Radical Mastectomy, ALND - Axillary Lymph Node Dissection, NCI- National Cancer Institute

Conclusions

Primary occult breast cancer is rare, and surgical management varies by type of treatment facility. In our study, ALND alone as surgical modality was more frequently performed at academic hospitals than at community hospitals, suggesting a trend towards less invasive management. Interestingly, the majority of OBC patients did not receive neoadjuvant systemic therapy. With recent studies suggesting further progress in axillary response rates, it is conceivable that in carefully selected patients who present with OPBC, neoadjuvant systemic therapy for axillary downstaging may have a role in future management of this patient population.