



Saving the axilla: can we reduce the number of up-front axillary dissections in early breast cancer?



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At-A-Glance

- The utility of pre-operative axillary imaging to determine extent of axillary surgery in early stage breast cancer has been contested in the post-Z0011 era
- In this retrospective review, the PPV of US/FNA for high nodal burden (≥ 3 LNs) was 0.56; **almost half** of early breast cancer patients may have been **spared up-front ALND**
- **We recommend against the use of routine pre-operative axillary US/FNA in early stage breast cancer patients** as it may lead to over-treatment of patients with early stage breast cancer (Level III)

Introduction

- Axillary lymph node dissection (ALND) is the current standard of care for patients with pre-operative positive axillary lymph nodes (cN1)
- Some patients with low burden axillary disease can be spared ALND ^{1, 2}
- Utility of preoperative axillary imaging has been contested as it may lead to over treatment in some patients

Purpose

- Examine the burden of nodal disease in patients who underwent up-front ALND based on clinical exam or ultrasound/fine needle aspirate (US/FNA)
- Identify the proportion of patients with early invasive breast cancer who could potentially be spared ALND

Methods

- Retrospective review from 2012 – 2016
- Patients with cT1-T2 breast cancer who underwent ALND for cN1 disease by clinical exam or preoperative US/FNA
- Exclusion criteria: neoadjuvant therapy, positive sentinel lymph node biopsy (SLNB)

Results:

- 105 patients identified (Table 1) 14 patients excluded had intraoperative conversion of SLNB to ALND
- No significant difference in ability to detect high nodal burden between clinical exam vs. US/FNA (Z-test, $\alpha = 0.05$)

Tumour Burden for all ALND Patients			
	Low (<3 LNs)	High (≥ 3 LNs)	PPV (High)
Clinically palpable (n = 52)	26 (50%)	26 (50%)	0.50
US/FNA positive (n = 39)	17 (44%)	22 (56%)	0.56
SLNB converted (n =14)	6 (42%)	8 (58%)	0.58
Total (n = 105)	49 (47%)	56 (53%)	*

Discussion:

- Both US/FNA and clinical exam were poor at predicting high nodal burden
- Routine FNA/US to determine up-front ALND may have led to overtreatment in 44% of patients
- Others have shown the poor predictive value of both US/FNA and magnetic resonance imaging for determining axillary burden ^{3, 4}
- Palpable nodes can be confirmed pathologic by US/FNA prior to ALND
- Use of neoadjuvant therapy for cN1 disease reduced the number of patients meeting inclusion criteria

Conclusion

- We recommend against the use of routine FNA/US to determine candidacy for up-front ALND in cT1-T2 breast cancer

References:

1. Giuliano et al. JAMA. 2011
2. Donker et al. Lancet Onc. 2014
3. Pilewski et al. Ann Surg Onc. 2016
4. Schipper et al. Breast. 2013

Table 1: Patient and Tumour Characteristics

Total population	n = 105
Age (mean \pm range)	61 (28 - 91)
Partial Mastectomy	63 (56%)
Tumour Size (median)	25mm
Grade	
I	11 (11%)
II	40 (38%)
III	54 (51%)
Pathology	
Ductal	90 (87%)
Lobular	9 (8%)
Other	6 (5%)
LVI	53 (47%)
ER+	80 (71%)
HER2+	22 (19%)

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How you want to be treated.