OUTCOMES OF SENTINEL LYMPH NODE BIOPSY IN CLINICALLY NODE NEGATIVE BREAST CANCER :UPFRONT SURGERY VS POST NEOADJUVANT CHEMOTHERAPY

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BACKGROUND

Sentinel lymph node biopsy (SLNB) has become the standard for staging in clinically node negative (cN0) breast cancer.

While its accuracy is well established in upfront surgery, its reliability following neoadjuvant chemotherapy (NAC) in initially (cN0) patients need further clarification.

OBJECTIVE

To compare SLNB outcomes in (cN0) breast cancer patients undergoing upfront surgery versus those receiving NAC prior to surgery, focusing on nodal positivity, tumor characteristics, and the effect of chemotherapy on disease response.

METHODS

Retrospective cohort study at SKMCH with 100 cN0 invasive breast cancer patients divided equally:

. **Group A (Upfront surgery, n=50**

.clinical stage:13 T1, 36 T2, 1T3

.final pathology: 3 T1, 39T2, 8T3.

.Histology: 42 inasive ductal, 3 lobular, 5 DCIS

.Grades: 2 Grade1, 45 Grade 2, 3 Grade3

.Receptors: All luminal A

.**Group B (Post NAC, n=50)**

.Clinical Stage1 T1, 45 T2, 4 T3

.Final Pathology: 18T1, 19 T2, 11 T0/T3

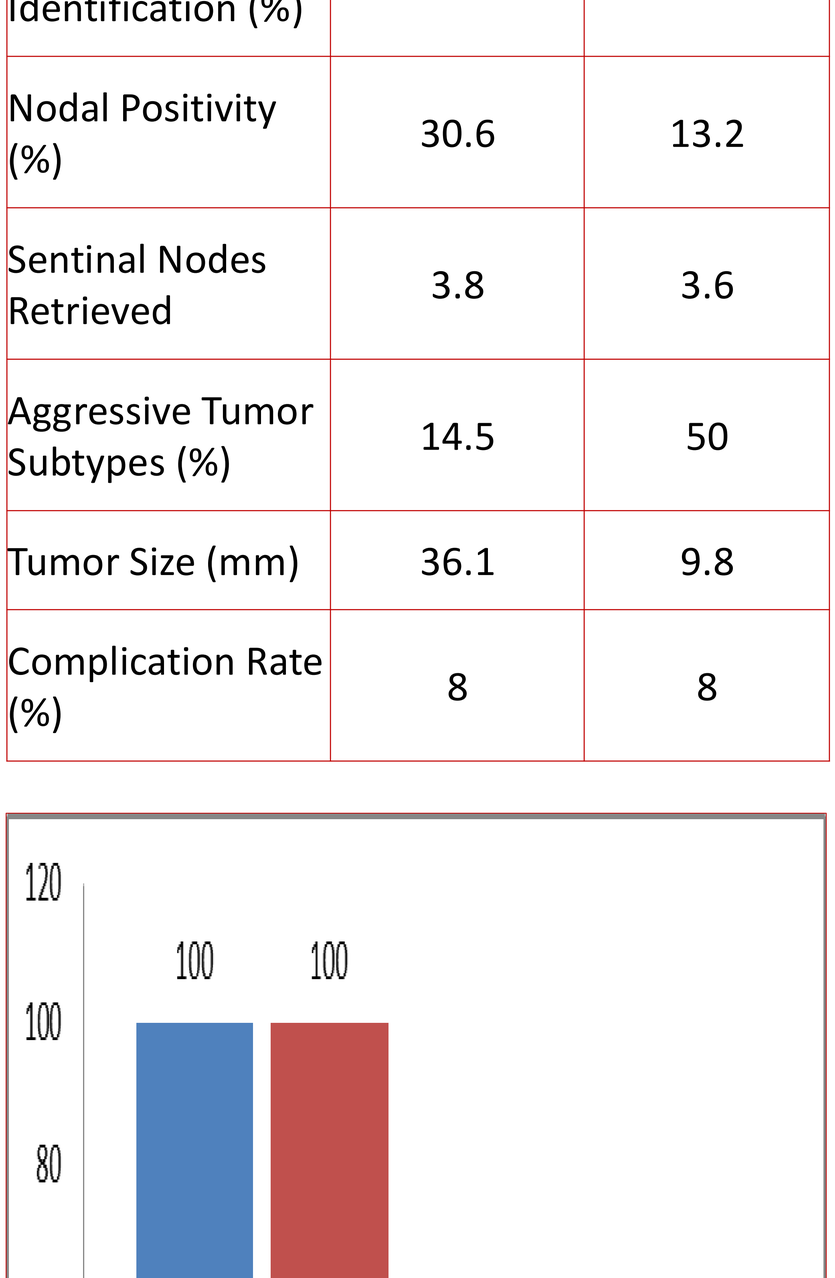
.Histology: 47 Ductal, 2 lobulart, 1 DCIS

.Grades: 5 grade1, 27 Grdae2, 18Grade 3

.Receptors: 20 Triple negative, 20 HER2 +ve, 10 luminal A

All patients underwent SLNB using dual tracer techniques

Clinical Metric	Group A(Upfront Surgery)	Group B (Post-NAC)
SLNB Identification (%)	100	100
Nodal Positivity (%)	30.6	13.2
Sentinal Nodes Retrieved	3.8	3.6
Aggressive Tumor Subtypes (%)	14.5	50
Tumor Size (mm)	36.1	9.8
Complication Rate (%)	8	8

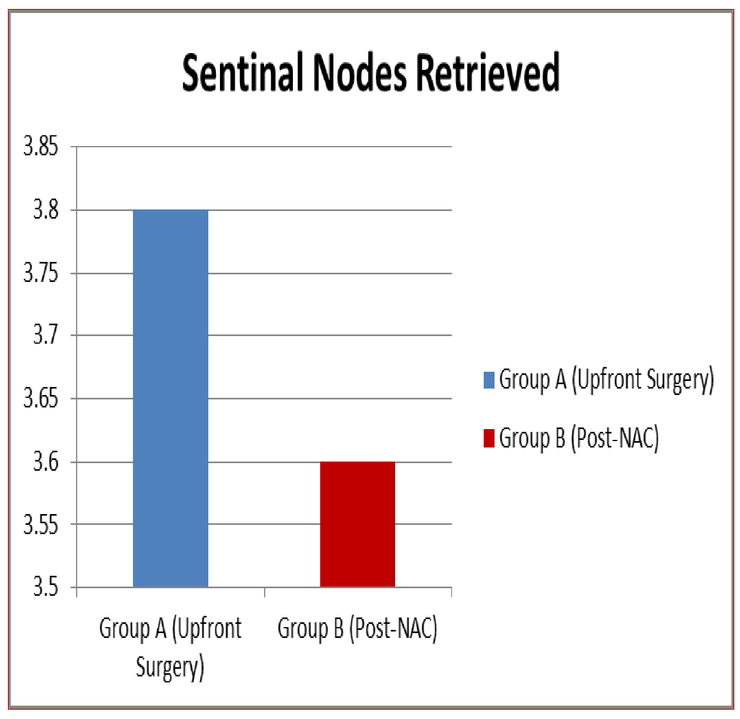


RESULTS

SLNB identification was 100% in both groups. Nodal positivity was higher in the upfront group (30.6%) than post NAC (13.2%), showing a trend toward reduction with chemotherapy, though not statistically significant(p=0.07). The average number of sentinel nodes retrieved was similar (3.8 vs 3.6, p=0.45). Group B had a significantly higher proportion of aggressive tumor subtypes(50% triple negative or HER2 +ve vs 14.5% in Group A, p<0.001).

Chemotherapy led to a significant tumor size reduction(mean 36.1mm to 9.8mm, p<0.001), and 11 patients had complete pathological response T0.

Complication rates were low (8%, mostly seroma with no group difference)



CONCLUSION

SLNB is reliable in cN0 breast cancer, with 100% identification rate both before and after NAC. Chemotherapy appears to reduce nodal positivity and tumor size significantly, supporting SLNB as an accurate and less invasive staging method even after systemic therapy. It helps avoid unnecessary axillary dissection in responsive patients.