

**AXILLARY CONSERVING SURGERY IS FACILITATED BY NEOADJUVANT CHEMOTHERAPY OF BREAST CANCER**

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**Background:** The principal rationale for neoadjuvant chemotherapy (NCT) of breast cancer is facilitating breast conserving surgery by downstaging the primary lesion. This study examines the downstaging role of NCT for axillary lymph node (ALN) metastasis thereby facilitating axillary conserving surgery.

**Methods:** Utilizing the institutional prospectively maintained database containing over 8000 cases from 1989-2007, the records of patients with breast cancer receiving NCT and pathological ALN assessment were reviewed. Patients completed a metastatic work-up prior to commencement of NCT.

**Results:** Of 473 cases, 309 (65%) had a clinical diagnosis of ALN metastasis (cN+) and 164 (35%) were clinically ALN negative (cN-). ALN biopsy in 173 patients documented metastasis in 94% of cN+ (117/124) and 27% of cN- (13/49) patients. Pre-NCT, ALN dissection (ALND) or sentinel lymph node dissection (SLND) documented metastasis in 96% of cN+ (23/24) and 23% of cN- (11/48) patients. Post-NCT, 24% (75/309) of cN+ and 36% (59/164) of cN- patients had breast conserving surgery. The breast pathologic complete response (pCR) rate was 17% (54/309) for cN+ and 20% (32/164) for cN- patients. Of 71 patients having SLND post-NCT, metastasis was confirmed in 61% (22/36) of cN+ and 29% (10/35) of cN- patients. Of 391 patients having ALND post-NCT, metastasis was confirmed in 76% (217/285) of cN+ and 44% (47/106) of cN- patients. The ALN pCR rate was 32% (35/108) for cN+ and 86% (6/7) for cN- patients. SLND pre-NCT identified ALN metastasis 43% (25/53) and had a false negative rate of 6% (1/18). SLND post-NCT identified ALN metastasis 45% (32/71) and had a false negative rate of 4% (1/28). Post-NCT ALND occurred in 29% (135/473) of pN0 patients.

**Conclusion:** NCT down-stages primary breast cancer and ALN metastasis. Post-NCT, rather than pre-NCT, ALN biopsy and/or SLND are recommended to facilitate and optimize axillary conserving surgery.