

Sentinel lymph node surgery associated with a high false negative rate in node-positive breast cancer: Alliance Trial

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- 1. Among women with node positive cN1 breast cancer, the false negative rate of sentinel lymph node surgery was 12.8%, above a previously determined acceptability threshold of 10%.**
- 2. Using dual agents to map and recover more than 2 sentinel lymph nodes was associated with a lower false negative rate.**

Evidence Rating Level: 2 (Good)

Study Rundown: In breast cancer, lymph node status is important in helping guide treatment decisions. In clinically node positive breast cancer, neoadjuvant chemotherapy is often used before surgery to assess the tumor's response and hopefully lead to breast-conserving surgery. After neoadjuvant therapy, surgeons will often use axillary node dissection (ALND) to evaluate chemotherapeutic response; however this procedure can cause significant morbidity. Sentinel lymph node (SLN) surgery has become established in clinically node negative breast cancer for staging; however, its use in clinically node positive disease is still debated. This study looked at women who were clinically staged to have node positive breast cancer and presented after chemotherapy for SLN surgery with or without ALND. The study found that the false negative rate (FNR) was 12.6% for those with cN1 disease, higher than the cut off for 10% needed to warrant a change in practice to using SLN instead of ALND.

One major weakness of this study is that patients who had node positive disease were not standardized for chemotherapy regimen, reason for discontinuation of therapy or length of therapy. Types of therapy and duration might affect the likelihood of there being a positive lymph node and of SLN surgery being a better predictor of lymph node status after chemotherapy. This study's strengths include the size of the cohort. In conclusion, this study supports the notion that with further examination and correlation with dual mapping, more than 2 sentinel nodes and clinical judgment, SLN surgery

might be a technique that could be an alternative to ALND in the future.

[Click to read the study, published today in JAMA](#)

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Relevant Reading: [Meta Analysis of sentinel lymph node biopsy after preoperative chemotherapy in patients with breast cancer](#)

In-Depth [prospective cohort]: Women 18 years or older who had histologically proven breast cancer and completed or were planning to undergo neoadjuvant chemotherapy and in addition had pre-treatment axillary nodal disease confirmed by core biopsy or fine needle aspiration were enrolled into the study. This prospective cohort examined 633 women with cN1 disease to look at the false negative rate of using SLN surgery compared to ALND. The likelihood of a false-negative SLN was decreased when mapping was performed with a combination of blue dye and colloid: FNR was 10.8% with the combination compared to 20.3% with a single agent ($p = 0.05$). Overall, of those with residual lymph node disease, the FNR was 12.6% (CI 9.85% – 16.05%), which is greater than the threshold of 10%, established as the rate of acceptability by the authors.

By Camellia Banerjee and Rif Rahman

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