Sentinel Lymph Node Surgery After Chemotherapy Demonstrated Accuracy in Nodal Staging for Certain Patients With Breast Cancer

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- Presurgery chemotherapy eradicated lymph node disease in 40 percent of cases.
- Sentinel lymph node surgery after chemotherapy correctly identified nodal status in 91 percent of patients.
- False negative rate of SNL surgery was 12.6 percent.
- Once chemotherapy is completed, this surgery may be reasonable for nodal staging in node-positive cases.

SAN ANTONIO — Sentinel lymph node surgery correctly identified nodal status after treatment with neoadjuvant chemotherapy in 84 percent of patients with node-positive breast cancer and could therefore provide a less invasive option than axillary lymph node dissection for nodal staging in this population, according to data from the American College of Surgeons Oncology Group (ACOSOG) Z1071 study.

These results were presented at the 2012 CTRC-AACR San Antonio Breast Cancer Symposium, held here Dec. 4-8.

Most women with breast cancer that has spread to their lymph nodes undergo an axillary lymph node dissection (ALND). However, treatment with chemotherapy before surgery, or neoadjuvant chemotherapy, can eradicate disease in the lymph nodes of some patients, converting them to node-negative status.

Sentinel lymph node (SLN) surgery is routinely used for patients initially diagnosed with node-negative disease. Judy C. Boughey, M.D., associate professor of surgery at the Mayo Clinic in Rochester, Minn., and her colleagues evaluated whether this technique could be safe for patients with node-positive breast cancer who undergo neoadjuvant chemotherapy.

In the case of node-positive breast cancer, “the question arises as to whether removal of the lymph nodes with an ALND is needed, or whether less invasive surgery, with a sampling of the nodes by SLN surgery alone, would reliably identify which patients still have disease in the lymph nodes and which patients have negative lymph nodes,” said Boughey.

The researchers conducted a multicenter study of 756 women with node-positive breast cancer who received neoadjuvant chemotherapy and underwent surgery. The study was performed through the American College of Surgeons Oncology

Group (ACOSOG) and supported by the NCI.

Of these patients, 637 underwent both SLN surgery with identification and removal of the sentinel nodes under the arm and ALND to remove most of the lymph nodes in the axilla. SLN surgery correctly identified nodal status in 91 percent of patients, including 255 patients now with node-negative breast cancer and 326 patients with continuing node-positive disease.

Boughey and her colleagues also found that 40 percent of the patients for which an SLN could be identified showed a complete pathological response in the lymph nodes, or eradication of active disease in the lymph nodes.

“If SLN surgery is accurate for evaluating the lymph nodes after neoadjuvant chemotherapy, it potentially could allow patients to avoid ALND and undergo SLN for axillary staging and only require an ALND if the SLN is positive,” Boughey said.

Boughey noted a false-negative rate of 12.6 percent.

“This rate is lower with use of dual tracer (blue dye and radiolabelled colloid) to identify the SLN, and the false-negative rate is lower the more SLNs are removed. Therefore, technical factors are important to minimize incorrect nodal staging,” she said.

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