

 BREAST CANCER

SLN surgery alone is best for node-negative breast cancer

Surgical treatment for breast cancer involves removal of the lymph nodes and can also include resection of the surrounding axillary nodes. The more invasive procedure of axillary-lymph-node dissection (ALND) is intended to maximize survival; however, this approach can lead to substantial short-term and long-term adverse effects. The less invasive sentinel-lymph-node (SLN) resection was developed to offer similar outcomes to ALND but with fewer adverse effects.

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These two techniques have not been compared in a randomized fashion, so the National Surgical Adjuvant Breast and Bowel Project (NSABP) B-32 phase III trial was established to determine whether SLN resection could produce the same outcomes as ALND but with fewer

adverse effects. “The trial demonstrated that when the sentinel nodes did not have cancer, there was no survival benefit to removal of the remaining lymph nodes. This technique resulted in less short-term and long-term surgical side effects,” notes David Krag, lead investigator of the study.

In the SLN procedure, a radioactive tracer and blue dye are injected into the breast near the cancer. The tracer is absorbed and travels through these channels until a lymph node is encountered. The radioactive tracer accumulates in the first-encountered lymph nodes and is then identified by the surgeon using a hand-held detector. “The surgeon can know the exact location of the lymph nodes receiving drainage from the cancer... if the nodes are negative, the likelihood that the other remaining lymph nodes have cancer is very low,” explains Krag.

Between May 1999 and February 2004, 5,611 women from 80 institutions in Canada and the USA were randomly assigned to the two treatment arms. The primary end point of the trial was overall

survival. Disease-free survival, distant cancer recurrences and adverse effects were also assessed. In total, 3,989 women had SLN negative tumors; 309 deaths were reported in those who were SLN negative, this was similar between the two arms with 140 of 1,975 in the ALND group and 169 of 2,011 in the SLN group. The overall mortality was similar between the two arms, as was the disease-free survival and local recurrence rates.

The efficacy end points assessed were similar between arms; thus, this trial showed that when the SLN is negative, SLN surgery alone is safe and effective. “Patients enrolled in this trial will continue to be followed for several years to ensure that the current findings hold up over a prolonged time,” comments Krag.

Lisa Hutchinson

Original article Krag, D. N. *et al.* Sentinel-lymph-node resection compared with conventional axillary-lymph-node dissection in clinically node-negative patients with breast cancer: overall survival findings from the NSABP B-32 randomized phase 3 trial. *Lancet Oncol.* **11**, 927–933 (2010)