

Appendix 1

Questions and answers on sentinel lymph node biopsy

A guide for women and their physicians

I am about to begin treatment for breast cancer. What surgical procedures are used to find out if cancer has spread to my lymph nodes?

The most commonly used method for determining the extent or “stage” of a breast cancer is “axillary dissection” — a surgical procedure that involves removing and examining lymph nodes (sometimes called “glands”) from the armpit (see guideline 4 on the removal of lymph nodes during breast cancer surgery [www.cma.ca/cmaj/vol-158/issue-3/breastcpg/0022.htm]).

“Sentinel lymph node biopsy” is an alternative staging method. It is a newer surgical procedure that involves removal and examination of 1 or 2 lymph nodes identified as the most important in the area where the cancer was found.

Why are lymph nodes removed?

Lymph nodes are part of the system that carries a fluid called “lymph” around the body. When breast cancer spreads, cancer cells often collect in the lymph nodes in the armpit. By removing some of the lymph nodes in the armpit and examining them under a microscope, doctors can obtain important information about how far the cancer has progressed. Information on whether the nodes are “positive” (contain cancer cells) or “negative” (do not contain cancer cells) will help determine the right treatment for you after surgery (see guideline 7 [www.cma.ca/cmaj/vol-164/issue-2/breastcpg/guideline7rev.htm] and guideline 8 [www.cma.ca/cmaj/vol-164/issue-5/breastcpg/guideline8rev.htm]). Removal of lymph nodes also reduces the risk that cancer will come back in the armpit area.

What is sentinel lymph node biopsy?

During a sentinel lymph node biopsy, radioactive material or a dye, or both, is injected into the breast tissue surrounding the tumour or the place where the tumour was removed. As the lymph carries the material or dye through the lymphatic pathways, the surgeon uses a device to identify the first node the lymph reaches (the “sentinel lymph node”), which is then removed by the surgeon for examination in the laboratory by a pathologist.

If the sentinel lymph node is found to be positive (to contain cancer cells), this suggests that other nodes in the area may be positive. If the sentinel lymph node is found to be negative (not to contain cancer cells) this suggests that other nodes in the area are also negative. Thus, the sentinel lymph node is thought to accurately reflect the state of all the nodes in the armpit.

What are the benefits of sentinel lymph node biopsy?

If you have sentinel lymph node biopsy you may avoid some of the side effects related to axillary dissection. These side effects include restriction of shoulder movement, pain, numbness and lymphedema (arm swelling) (see guideline 4

[www.cma.ca/cmaj/vol-158/issue-3/breastcpg/0022.htm] and guideline 11 [www.cma.ca/cmaj/vol-164/issue-2/0191.htm]).

What are the disadvantages of sentinel lymph node biopsy?

When a sentinel lymph node biopsy is performed, there is a small chance, usually less than 10%, that even though no cancer cells are found in the sentinel lymph node, cancer cells are present in other lymph nodes in the armpit. You should be aware that missing these cancer cells may affect the treatment you receive after surgery and the chance of breast cancer returning.

What should be done if the sentinel lymph node is negative for cancer?

If the sentinel lymph node is found to be negative, further surgical procedures are not required for staging the cancer.

What should be done if the sentinel lymph node is positive for cancer?

If the sentinel lymph node is found to be positive, this suggests that other lymph nodes in the armpit may contain cancer cells and an axillary dissection should be done.

What are some of the questions you should ask your surgeon about sentinel lymph node biopsy?

Sentinel lymph node biopsy is a challenging procedure to perform and is only mastered with experience. This means that medical specialists who have not performed a large number of these biopsies may have a high failure rate; that is, they will not be able to accurately and consistently identify the sentinel lymph node and determine whether it does or does not contain cancer cells. You should ask your surgeon the following questions:

- *How often do you perform breast cancer surgery? A surgeon who does not perform breast cancer surgery frequently should not do sentinel lymph node biopsy.*
- *How many sentinel lymph node biopsies have you performed, and what is your success rate with the procedure? Surgeons offering to perform this procedure should inform patients of the number of biopsies they have completed and the number of times they have correctly identified the sentinel lymph node. They should indicate the number of times they have found cancer cells in the lymph nodes in the armpit when the sentinel lymph node was negative.*

When surgeons first start performing sentinel lymph node biopsy, they should also perform back-up axillary dissection on all patients. It has been suggested that, before a surgeon

performs sentinel lymph node biopsy alone (without axillary dissection), he or she should have performed at least 30 sentinel lymph node biopsies followed by axillary dissection. In these 30 cases, the surgeon should have identified the sentinel lymph node at least 85% of the time and found cancer cells in the nodes under the arm in no more than 5% of cases when the sentinel lymph node was negative.

When should sentinel lymph node biopsy *not* be performed?

If you have had breast surgery or radiation to the breast in the past, you should not have sentinel lymph node biopsy. You should also not have the biopsy procedure if you have "clinically palpable nodes" (lymph nodes that your doctor can


feel), "locally advanced breast disease" (very extensive cancer in the breast) or tumours in more than one location in the breast, or if you have had breast reduction surgery in the past.

Should I have sentinel lymph node biopsy instead of axillary dissection?

You will need to discuss this question with your doctor and the other medical specialists involved in your care. Axillary dissection is still the most widely accepted treatment for the surgical staging of breast cancer. You and your doctor will need to discuss what is and is not known about sentinel lymph node biopsy before you make a decision about which procedure is best for you. You may choose to participate in a clinical research trial of sentinel lymph node biopsy.

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