

Lymph node surgery could be avoided for some women with aggressive types of breast cancer

21 March 2018

Sentinel lymph node biopsies, where lymph nodes are surgically removed to check for signs of breast cancer spread, could be safely avoided for some women, according to research presented at the 11th European Breast Cancer Conference.

Breast [cancer](#) becomes most dangerous when it begins to spread to other parts of the body and one of the first places it spreads to is nearby [lymph nodes](#), known as sentinel lymph nodes. To check for signs of spread, surgeons remove sentinel lymph nodes from under the arm. This procedure can leave women with long-standing side effects such as swelling, numbness and reduced movement of the arm.

Two new studies show that women with either 'triple negative' or HER2 positive types of [breast cancer](#), whose cancers respond well to [chemotherapy](#) given before surgery, have a very low risk of having any [cancer cells](#) in these lymph nodes.

The first study was by a team at University Hospital Vall Hebron, Barcelona, Spain, led by breast surgeon Christian Sisó MD.

They studied a group of 90 patients treated at the hospital between January 2011 and December 2016. All had either HER2 positive cancer (where the cancer cells have a high level of human epidermal growth factor receptor 2, which stimulates them to grow), or triple negative breast cancer (where the tumour is HER2 negative, and does not respond to the hormones oestrogen and progesterone). Both are known to be aggressive forms of breast cancer.

All patients were given chemotherapy treatment to shrink their tumours before surgery. They were also given ultrasound scans to check for signs of

cancer in the lymph nodes and this was confirmed with pathology tests.

Fifty-four of the patients (60%) had no obvious signs of cancer in their lymph nodes before treatment. Following chemotherapy, all but two (96.3%) had no cancer cells growing in their lymph nodes. Twenty-three of these women (42.5%) also had no cancer cells growing in the breast and none of those had cancerous cells in their lymph nodes.

Of the remaining 36 (40%) patients who did have signs of cancer in their lymph nodes before treatment, 17 (47.2%) had no cancer cells growing in the breast after treatment and, of these, 13 (76.5%) were also free of cancer cells growing in their lymph nodes.

Dr Sisó explained: "Our results suggest that giving chemotherapy to patients with these types of breast cancer before considering surgery offers the possibility of reducing or even avoiding surgery. By giving drug treatment first we are able to see how well the drugs work against an individual tumour. If they are working well, they can clear cancer cells from the lymph nodes and in the breast.

"In women who had no signs of cancer in their lymph nodes and where treatment seems to have cleared the cancer in the breast, lymph node surgery might be avoided. On the other hand, in women who had signs of cancer in their lymph nodes before treatment, there is still a risk that the disease will remain there, even when it has been successfully treated in the breast itself."

The second study will be presented by Marieke van der Noordaa MD. This study was performed by the breast cancer team of at the Netherlands Cancer Institute - Antoni van Leeuwenhoek Hospital.

They studied a group of 294 patients with breast cancer treated at the institute between January 2013 and September 2017. All had no signs of cancer in their lymph nodes according to ultrasound, PET/CT or cytology taken with a needle. All patients were treated with upfront chemotherapy.

Following chemotherapy, none of the patients with HER2 positive breast cancer had tumour cells in their sentinel lymph nodes and almost none (1%) of patients with triple negative tumours had cancer cells in their lymph nodes. Only 2% of patients with a poor grade tumour, had cancer [cells](#) in their lymph nodes. All patients whose breast tumours responded completely to the chemotherapy were also cancer-free in their lymph nodes.

Dr van der Noordaa explained: "These results suggest that sentinel lymph node biopsies are most likely not needed in many women who undergo upfront chemotherapy and who have no sign of cancer in their lymph nodes before the start of chemotherapy. This could mean the side-effects sentinel lymph node biopsies could be prevented in these women."

Following this work, Dr van der Noordaa, together with Dr Vrancken Peeters and colleagues, will start a trial (the ASICS trial) for patients with HER2 positive or triple negative breast cancer, and patients with a poor grade tumour, who are treated with upfront chemotherapy to evaluate whether avoiding sentinel lymph node biopsies results in recurrences in the lymph nodes, and to examine overall survival and quality of life.

Professor Robert Mansel is chair of the 11th European Breast Cancer Conference and Emeritus Professor of Surgery at Cardiff University School of Medicine, UK, and was not involved in the research. He said: "Whether or not a breast cancer has spread to nearby lymph nodes is a key indicator of a patient's prognosis. That's why [sentinel lymph node](#) biopsy has been an important part of treating [breast](#) cancer.

"These two studies give us clues on which patients have a very low risk of cancer in their lymph nodes after chemotherapy. This could enable us to reduce

unnecessary surgery when it's safe to do so, helping us tailor treatments towards individual [patients](#)."

Provided by ECCO-the European CanCer Organisation

APA citation: Lymph node surgery could be avoided for some women with aggressive types of breast cancer (2018, March 21) retrieved 26 October 2022 from <https://medicalxpress.com/news/2018-03-lymph-node-surgery-women-aggressive.html>

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