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BREAST CANCER

Reducing re-operation rates with ultrasound-guided surgery

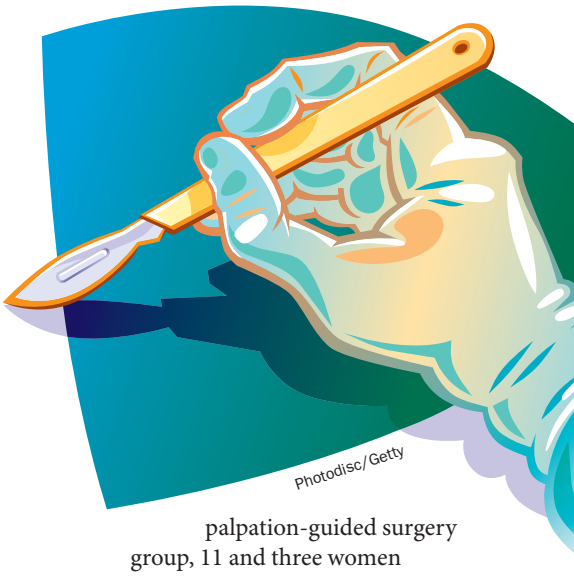
Breast-conserving surgery is the preferred choice for the local treatment of early stage breast cancer. One of the main objectives of this treatment is to obtain tumour-free resection margins, as margins that are positive for tumour cells are associated with a high risk of recurrence and might require re-excision, additional radiotherapy or, in some cases, mastectomy. These extra treatments have a major effect on the final appearance of the breast and on the patient's quality of life.

In recent years, ultrasound-guided surgery has become an effective technique to help surgeons when attempting to excise the tumour completely while removing as little healthy tissue as possible. However, until now, only one study had compared outcomes of ultrasound-guided surgery with palpation-guided surgery. Building on that study, Nicole Krekel and colleagues have shown in the randomized, controlled COBALT (Cosmetic Outcome of the Breast After Lumpectomy Treatment) trial that ultrasound-guided surgery significantly reduces the proportion of tumour-involved resection margins compared with standard palpation-guided surgery.

The study included 134 patients with a palpable early stage (T1–T2, N0–N1) invasive breast cancer who were randomly allocated to receive ultrasound-guided surgery ($n = 65$) or palpation-guided surgery ($n = 69$). The aim of both techniques was to achieve complete tumour removal with a healthy tissue margin of no more than 1 cm. In the ultrasound-guided surgery arm, the surgeons focused exclusively on ultrasound images to guide the incision, whereas in the palpation-guided surgery group, surgeons used their fingers to palpate and retract tumours.

Among the 134 patients included in the trial, 97% of women who underwent ultrasound-guided surgery had tumour-free margins compared with 83% of women assigned to the palpation-guided surgery group. Analysis of the specimens showed that ultrasound-guided surgery achieved tumour-free margins as small as 0.3 cm compared with 0.4 cm margins obtained with palpation-guided surgery.

Importantly, this improvement meant less additional treatment. Only six women needed radiotherapy and one woman needed re-excision in the ultrasound-guided surgery group whereas, in the palpation-guided surgery group, 11 and three women needed radiotherapy and re-excision, respectively. Furthermore, five women in the palpation group needed a mastectomy.



The authors conclude that surgeons should be encouraged to receive training in intraoperative ultrasound-guided surgery to achieve a higher surgical accuracy of breast-conserving surgery and to reduce re-operation rates.

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Original article Krekel, N. M. A. *et al.* Intraoperative ultrasound guidance for palpable breast cancer excision (COBALT trial): a multicentre, randomised controlled trial. *Lancet* doi:10.1016/S1470-2045(12)70527-2