

Sentinel Lymph Node Biopsy for Breast Cancer: Facts and Controversies

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Axillary lymphadenectomy to ascertain nodal status in order to stage patients with breast cancer and decide on further treatment, has been the gold standard for many years. With the advent of routine mammographic screening, the detection of small, node-negative, good prognosis breast cancers has increased dramatically. Between 50 and 70% of women with breast cancer have node negative disease and, therefore, undergo an unnecessary lymphadenectomy with its associated morbidity. Therefore, there has been a move towards less invasive axillary surgery to try and minimise potential complications which include reduction in shoulder movements, sensory loss and lymphoedema.

Sentinel lymph node (SLN) biopsy has dramatically changed axillary practice both in Europe and the USA. Its introduction followed reports from several non-randomised studies which showed that it is accurate, safe and associated with reduced morbidity. The UK ALMANAC trial is a randomised, multicentre study comparing SLN biopsy with standard axillary dissection in patients with clinically node-negative breast cancer. Its first results were reported in 2004 and led to a major shift towards less invasive axillary surgery in the UK. Using a combined technique, involving patent blue V dye and radiolabelled albumin colloid, the SLN identification rate was over 95% and the false negative rate around 5%. There was a significant difference in all three primary outcome measures, with reduction in arm/axillary morbidity, improved quality of life and reduced costs in the SLN arm of the trial.

There is no doubt that based on these results, trained surgeons should be offering their patients with early breast cancer SLN biopsy instead of a full axillary dissection.

As with any new method, there are still some unanswered questions and controversies surrounding SLN biopsy. Axillary recurrence and survival rates at 5 and 10 years are not yet available. The use of enhanced histopathological analysis of the SLN with the detection of micrometastases, the significance of which is not fully known, is a controversial issue. Moreover, the introduction of SLN biopsy has revived interest in the internal mammary lymphatic drainage of the breast and opinion is divided as to whether biopsy of these lymph nodes changes patient management.

These as well as other issues surrounding surgical training and some technical aspects of the procedure will be discussed.