

Editorial Comment

Local recurrence in the axilla after sentinel node biopsy

Robert Mansel

Chairman of the Division of Hospital Specialties, Department of Surgery, Cardiff University, Heath Park, Cardiff, Wales CF14 4XN, UK

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The paper in this issue by Veronesi and colleagues [1] from Milan reports a 0.3% local recurrence (LR) rate in the axilla after a negative sentinel node biopsy in 936 patients after a median follow-up of 37 months, and concludes that the procedure is safe for routine use. The usual caveats apply that low volume nodal disease missed by sentinel node biopsy may take longer to appear and modern chemotherapy and radiotherapy may be more effective in micrometastatic disease than old style nodal macrometastases. The Milan report is interesting because the group use an unusually detailed pathological examination of each sentinel node at all levels through the node, and thus is more likely than other series to pick up all tumour deposits. As all patients with positive sentinel nodes underwent axillary clearance, this series should have one of the lowest rates for axillary recurrence. However, there are problems in accepting that this result is likely to be obtained when sentinel node biopsy is standard care, as the Milan series is from a single unit with a limited number of surgeons using the technique of isotope alone. Studies of the learning curve of sentinel node biopsy show lower success rates when large numbers of surgeons perform this technique. The 2 largest series of 226 and 89 surgeons showed that between 10 and 50 cases were needed on average to achieve 90% success in locating a sentinel node. In these series, only a mean of 10–13 procedures were done by each surgeon on average [2,3]. In the UK trial of sentinel node biopsy Axillary Lymphatic Mapping Against Nodal Axillary Clearance (ALMANAC) trial, each surgeon performed a mandatory 40 audit cases after detailed workplace training by an experienced surgeon, and a very short learning curve was found [4,8]. Several series also show

that in general use the combined isotope/dye technique has a slightly higher success rate in finding sentinel nodes than a single technique alone [9].

Thus, it is instructive to compare a larger series of 4008 sentinel node biopsies from one centre recently published from the Memorial Sloan Kettering Hospital in New York, where the combined technique was used with a slightly shorter follow-up [5]. In this non-randomised study, some patients with positive sentinel nodes did not receive axillary treatment for various reasons, and this subgroup of 210 patients suffered an axillary LR of 1.4% at a median follow-up of 31 months, which was 12 times higher than the 2340 sentinel node-negative patients at 31 months median follow-up, who had a 0.12% axillary LR rate. The tumour sizes in the Milan trial were smaller than those in the Memorial series, and the pathology more detailed (thus committing all the positive sentinel node patients to axillary clearance), yet the axillary LR after a negative sentinel node biopsy was approximately 2.5 times higher in the Milan series. The obvious caveats of non-randomised group comparisons, longer follow-up in one series and potential differences in adjuvant treatments, such as variable radiation fields near the lower axilla should be remembered, but it does raise some questions when a 2.5-fold difference was seen between 2 hugely experienced centres in a median 3-year follow-up. The highly detailed pathology in Milan would not suggest the differences are due to missing more micrometastases in that series.

There is little doubt that axillary node dissection (ALND), is a highly effective operation for LR in the axilla, with average rates of 0.0–2.1% after 3–15 years follow-up (quoted in 9 series in [5]). If smaller metastases take longer to appear, then it is likely that the LR figures seen in the present series will be somewhat higher with further follow-up. It is also likely that the axillary LR

E-mail address: manselre@cf.ac.uk.

rate is higher in general surgical practice after ALND and it can be predicted that the axillary LR rate for negative sentinel node biopsy will be higher in general than the figures seen in the Milan paper. Having said this, to put it into perspective, even a tripling of the rate would still give less than a 1% LR, which would be equivalent to that of the best figures in ALND. When 4-node sampling was studied in the Edinburgh randomised trial, the node-negative sample group had an axillary LR rate of 5% at a median follow-up of 4 years. Thus, it might appear that negative sentinel node biopsy may have a lower rate of recurrence than axillary sampling by palpation, but no direct comparison of the 2 techniques has been published.

Finally, even if a slightly higher rate of axillary LR did occur after negative sentinel node biopsy, it is not clear that this would translate into any significant effect on survival. The National Surgical Adjuvant Breast and Bowel Project (NSABP) B-04 study showed no difference in survival between the radical mastectomy and the total mastectomy group, despite a 17% difference in local recurrence, although the study was not powered to show a small survival difference. Two recent overviews of trials of ALND have studied this question [6,7], and have suggested a small, but significant, effect on survival for axillary LR, but limitations were noted in both studies, that smaller numbers of T1 tumours were included, and less adjuvant therapies were used than in current practice for the target population of small size tumours selected for sentinel node biopsy. Thus, the significance of these older studies for the situation of a low rate of axillary LR in sentinel node biopsy is unclear, and the results of the American College of Surgeons Oncology Group (ACOSOG) Z0011 trial are awaited with interest. The conclusion is that sentinel node biopsy performed after adequate training and experience is likely to be a safe procedure in terms of local recurrence, but the definitive results will come from ongoing trials. Surgeons new to the technique may ob-

tain better results by using the combined technique, at least during their early experience.

Conflict of interest statement

None declared.

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