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Editorial Comment

Is local control necessarily an indicator of quality?

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While pioneers in the field such as Geoffrey Keynes and François Baclesse had reported techniques for breast conservation decades earlier, it was really in the 1980s that this form of treatment gained international recognition as a safe alternative to mastectomy. Several randomised trials played an influential part in this change of climate, including those conducted by major collaborative organisations, such as the European Organisation for Research and Treatment of Cancer (EORTC) in Europe [1] and the National Cancer Institute (NCI) in North America [2]. Today, breast conservation is recognised as an acceptable option for most women presenting with early breast cancer and is certainly the preferred approach for a very substantial number of them. Recurrence rates within the breast of less than 1% per annum over the first 10 years are nowadays regarded as the expected standard for most groups of patients [3] (even if the figure is to some extent an arbitrary one). It was not always thus: even many of the leaders in the field reporting results in the 1980s quoted local recurrence rates that were much higher [4–6], as did the two randomised trials (EORTC and NCI) referred to above. By contrast, in a more recent EORTC trial, the 5-year breast recurrence rate in a group of nearly 5500 patients treated in many centres was only 7.3 and 4.3% in groups given, respectively, 50 Gy radiation to the whole breast, and the same plus a tumour-bed 'boost' of 16 Gy [7].

In this issue of the *European Journal of Cancer*, one Dutch centre analyses its own experience over a 15-year period [8]. The main finding was a striking improvement in local control following breast-conserving therapy in patients treated during 1993–1999, compared with an earlier cohort treated during 1985–1992. The authors conclude that higher local control rates are an indication of better quality, as a consequence of 'improvements in patient selection and treatment techniques.' Is this necessarily the principal lesson to be drawn from this experience, which was derived from the period when the National Breast Screening Programme was being successfully implemented in the Netherlands? Current surgical, pathological, and radiotherapeutic techniques, with appropriate use of systemic therapies, give very satisfactory rates of successful breast conservation for the great majority of patients [3]. What have been the factors that have contributed to the improved local control rates that are generally observed in recent years? Recognising and judiciously applying these factors is a hallmark of quality in a breast service. Regrettably, the Tilburg authors do not tell us how they addressed these issues.

Increasing attention to obtaining clear margins has undoubtedly been an important positive trend during the last two decades, including the virtually ubiquitous use of ink [9] and the introduction of cavity shaves in some centres [10]. Attention to detail in such respects is undoubtedly one component of what constitutes quality of treatment, although in the Tilburg paper we are not told about whether use of such assessments changed between the two periods reported on.

There is no longer any question that excision margin status represents a useful marker of higher local failure risk. The pertinent question is rather to define the conditions under which the risk associated with a 'positive' margin justifies the substantial costs (financial, emotional and cosmetic) of a second surgical intervention. Patients whose tumours are excised with 'focally-positive' margins appear to have recurrence rates similar to those of patients with free margins, provided that appropriate radiotherapy and systemic treatment is given [11]. Moreover, in a large recent series from Enschede, the importance of margin involvement for local recurrence was apparent almost exclusively in very young (<40 years) patients [12]. Re-excision of involved

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margins has been uncritically accepted as axiomatic in many places, but does *any* positive margin require re-excision, even if it means total mastectomy?

There are groups of patients for whom a high risk of local recurrence is clearly a worry. In the very large EORTC trial cited above, the adverse effect of young age (most striking for those aged 40 years or younger) was shown to be independent of all other risk factors [13]. It is possible that in young patients the presence of other adverse features, such as vascular invasion [14], may compound the risk, making breast conservation a less attractive option, despite optimal treatment quality. Defining acceptable conditions for breast conserving therapy in very young patients remains an important area of active research.

So what happened in Tilburg during the 1990s to explain the impressive results? It is hard not to conclude that an improvement in quality played a certain role. However, one cannot read this paper without being reminded of the earnest promises of breast screening advocates that early detection would not only save lives, but also reduce the need for mutilating treatments. In fact, with the introduction of nationwide screening in 1990 in the Netherlands, the percentage of conservation surgery for invasive cancers did indeed climb from 32% in 1990 to 42% in 1996 for patients age 50–69 years [15]. In Tilburg the effect of screening was also apparent between the periods 1985–1992 and 1993–1999, with an increase in pT1 tumours from 46 to 55% and in node-negativity from 53 to 63% [8]. But, paradoxically, whereas in the earlier period more than half of pT1 tumours had breast conservation, in the later ('screening') period almost two-thirds had mastectomies, and the mastectomy rate in the 50–69 year age group rose from 68 to 73%. As the authors rightly point out, that is *not* the way things are supposed to happen when a screening programme is implemented, and an increase in breast conservation is cited as a major goal for the future. This paper illustrates that low failure rates need not necessarily be taken at face value. Case selection often plays an insidious role. High quality implies that this selection, which is an integral part of good medical practice, is made for the benefit, not to the detriment of the patients.

As a cancer journal intended for a broad multi-disciplinary audience, the *European Journal of Cancer* is not only concerned with reporting the latest scientific acquisitions, but also with the assessment of routine clinical practices in the broader medical community. Ernst and colleagues are to be commended for submitting their carefully-analysed results for peer review. There are doubtless many valuable lessons to be learned from the way in which recently acquired knowledge is translated into the community setting. In the future, greater attention on the part of general cancer journals deserves to be devoted to this area of investigation.

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