Re: Long-term Outcomes of Invasive Ipsilateral Breast Tumor Recurrences After Lumpectomy in NSABP B-17 and B-24 Randomized Clinical Trials for DCIS

Recently, Wapnir et al. (1) provided detailed results of the long-term outcomes in ductal carcinoma in situ (DCIS) patients from the National Surgical Adjuvant Breast and Bowel Project (NSABP) B-17 and B-24 randomized trials. The data reported are very important because for every four diagnoses of invasive breast cancer, now there is one diagnosis of DCIS. However, understanding of the biology of DCIS and its interplay with the host microenvironment remains elusive (2).

As described by Wapnir et al. (1), adjuvant radiation therapy in the NSABP B-17 trial substantially reduced the incidence of ipsilateral breast tumor recurrence from 35.0% in the lumpectomy only (LO) group to 19.8% in the lumpectomy followed by radiotherapy (LRT) group [see table 2 in (1)]. Recurrence is an important endpoint in a woman’s quality of life because it is associated with much stress and further breast procedures. However, this reduction in local recurrence was not reflected in any survival advantage from adjuvant radiotherapy. In fact, the irradiated group of patients suffered a slight increase in mortality after 15 years of follow-up compared with the patients assigned to the no radiation group; total mortality was increased to 17.1% in the irradiated group compared with 15.8% in the nonirradiated group, explained by breast cancer mortality increasing to 4.7% from 3.1% [see figure 5 in (1)]. The authors (1) interpretation of this latter finding is that recurrences after radiation are less frequent but tend to be more aggressive. Whether these tumors represent radiation-induced second malignancies as previously suggested (3) cannot be excluded.

Although not seen in the NSABP B-17 trial with a median follow-up of 207 months, late effects of breast radiotherapy can introduce competing mortality risks, which is difficult to justify in a disease as indolent as DCIS. It has been demonstrated that the US breast cancer radiotherapy regimens of the 1970s and early 1980s appreciably increased mortality from heart disease and lung cancer 10–20 years afterward (4). Although improvements in radiotherapy since 1980s have in all likelihood reduced such risks, an increased cardiovascular mortality was clearly seen in the irradiated arm of the UK, Australia, and New Zealand (UK/ANZ) DCIS trials (5).

It remains the duty of the oncology community to correct the current misunderstanding of too many women and some physicians that prevention of local recurrence after a noninvasive initial breast cancer also represents a gain in survival. This misunderstanding has both an economic and a personal cost; overestimating death risk and a belief that radiotherapy in the initial treatment of DCIS reduces mortality results in a not fully considered acceptance of radiotherapy while underestimating treatment-related late morbidities.

We think that future research should concentrate on the biology of DCIS and identification of carriers who are least likely to recur because adjuvant radiotherapy would be particularly inappropriate in these women.

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References

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