Margin threshold for women with ductal carcinoma in situ

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Negative surgical margins should be attained for ductal carcinoma in situ (DCIS) patients after breast-conserving surgery (BCS) regardless of radiotherapy, and surgeons should attempt to reach wide negative margins in their first attempt within cosmetic restraint according to a study published March 22 in the *Journal of the National Cancer Institute*.

Margin status is an important predictor of local recurrence regardless of subsequent radiotherapy (RT) for women with DCIS who are treated with BCS. The risk of ipsilateral breast tumor recurrence (IBTR) is lowered after BCS for DCIS if the margin around the tumor resection has no cancer cells (negative margin). However, there is no uniform agreement among surgeons about the best minimum negative margin width.

In order to determine the association between different negative margin widths for DCIS after BCS and risk of local recurrence, Shi-Yi Wang, M.D., MS of the Division of Health Policy and Management at the University of Minnesota School of Public Health and colleagues gathered data from the PubMed database for studies of DCIS published in English between January 1970 and July 2010. The women with DCIS were classified as either having had BCS with radiotherapy or BCS without radiotherapy. Wang performed a meta-analysis to determine the association between negative margin width and the risk of IBTR in women treated with BCS with or without RT.

The researchers found 21 studies published in 24 articles that identified

an association between wider negative margins and a lowered risk of IBTR with or without radiotherapy. They also found that negative margins of at least 10mm were linked to a smaller risk of IBTR, regardless of radiotherapy treatment. "RT cannot be relied upon to mitigate the negative impact of positive margins," they write, adding, "given that BCS is subject to cosmetic constraint and not all surgeries can guarantee 10-mm free margins, RT should always be considered the top priority. Because margins and treatments are the modifiable factors, we highlight that RT should complement (and not be supplanted by) the targeting of wider free margins to minimize IBTR."

In an accompanying editorial, Monica Morrow, M.D., of the Department of Surgery at the Memorial Sloan-Kettering Cancer Center in New York and Steven J. Katz, M.D., MPH, of the Department of Medicine and Health Management and Policy at the University of Michigan, point out the study's limitations and potential biases and question whether adoption of a 1 centimeter margin was likely to be of benefit, or to result in more mastectomies and more re-excisions with little overall improvement in the health of women with DCIS. "Only 5 of the 21 studies included in the meta-analysis reported margin widths of 1cm or more. It is just as clinically plausible to hypothesize that tumors with more favorable prognosis were more likely to result in more widely clear margins," Morrow and Katz write. They also question whether randomized clinical trials to test optimal margin widths would be worth the large financial investment, given the results of earlier studies suggesting that the benefit of better defined margins on the overall health of women would be relatively negligible.

"The patient and financial resources needed for a study to quantify such a small difference are likely to do more good if devoted to identifying those factors that result in the progression of DCIS to invasive cancer—knowledge that is critical to our ability to tailor the extent of treatment and optimize net benefit in individual patients."

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