Denser Breasts: Risk for Local Cancer Recurrence

BY MARY ANN MOON

Breast density on mammography is a significant risk factor for local cancer recurrence, based on a study of more than 300 women.

In a study of 335 women with breast cancer, the actuarial risk of local disease recurrence at 10 years was 5% for women with the lowest breast density, 13% for those with intermediate breast density, and 21% for women with the highest breast density, said Dr. Tulin Cil of the University Health Network, Toronto, and associates.

None of the 34 women who had low breast density and who did not receive adjuvant radiotherapy developed a recurrence, suggesting that they were not harmed by foregoing radiotherapy. If larger studies confirm that women with less dense breasts can safely avoid radiotherapy, that could result in "considerable savings, reduced morbidity, and improved quality of life," the researchers said. If women with dense breasts are found in larger studies to be at higher risk for local recurrence, radiotherapy would indeed be beneficial for these patients, they added.

Several recent studies have suggested that high breast density corresponds with a higher risk of local recurrence, but the biologic basis for this association is unknown. Dr. Cil and colleagues assessed breast density on pretreatment mammograms taken in 335 women who underwent breast-conserving surgery for invasive cancer at Women's College Hospital in Toronto between 1987 and 1998.

The patients were categorized as having low (less than 25%) density, intermediate (25%-50%) density, or high (greater than 50%) density according to a variation of the Wolfe classification system. The study population was fairly equally distributed among these three classifications. Patients in these three groups had similar tumor characteristics, received similar adjuvant therapies, and had similar estrogen receptor status.

Sixteen percent of the women with high breast density developed a local recurrence, compared with 10% of the women with intermediate breast density and 3% of those with low breast density. After age, menopausal status, and radiotherapy status were controlled for, women with high breast density were found to have a hazard ratio of 5.7 for developing local cancer recurrence, compared with the low-density group (Cancer 2009;115:5780-7). Women with intermediate breast density had a hazard ratio of 3.6, compared with the low-density group (see box). There were no differences in rates of distant cancer recurrence among the three groups.

Among women who received adjuvant radiotherapy, "the prognostic effect of mammographic density was found to be minimal and nonsignificant." However, among women who did not receive radiotherapy—who constituted 29% of this study population—the difference in prognostic effect was marked.

It is not yet known whether attempting to reduce breast density through dietary or lifestyle alterations might influence recurrence risk, they said. ■

VITALS

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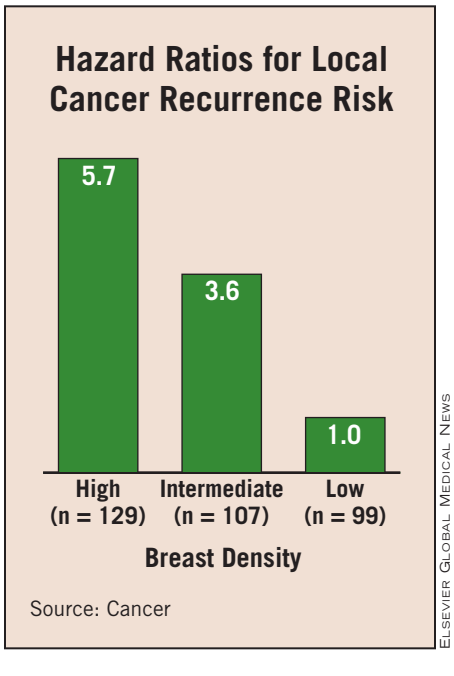

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