



## Based on interval cancer rates, which women with dense breasts are most likely to benefit from supplemental imaging?

The authors of this prospective study involving more than 350,000 patients observed high interval cancer rates for **women with 5-year breast cancer risk of 1.67% or greater and extremely dense breasts or women with 5-year breast cancer risk of 2.50% or greater and heterogeneously dense breasts.** They found the interval rate of advanced-stage disease to be highest (>0.4 cases per 1,000 examinations) among women with 5-year risk of 2.50% or greater and heterogeneously or extremely dense breasts.

### **FAST TRACK**

**Determining patient populations at greatest risk for invasive cancer within 12 months of normal mammography is one approach to consider for supplemental screening recommendations**

*Kerlikowski K, Zhu W, Tosteson AN, et al; Breast Cancer Surveillance Consortium. Identifying women with dense breasts at high risk for interval cancer: a cohort study. Ann Intern Med. 2015;162(10):673–681.*

#### **▶ EXPERT COMMENTARY**

**>> Mark D. Pearlman, MD**, Vice Chair and Service Chief, Division of Obstetrics and Gynecology; Professor of Surgery; and Director of the Breast Fellowship in Obstetrics and Gynecology; University of Michigan Health System, Ann Arbor, Michigan. Dr. Pearlman is a Contributing Editor to OBG MANAGEMENT.

**T**he number of states that require notification to a woman who is identified on mammography as having heterogeneous (Breast Imaging-Reporting and Data System [BI-RADS] C) or extremely dense breasts (BI-RADS D) is growing. In fact, Michigan became the 22nd state to require such notification when its law went into effect on June 1, 2015. How do we advise our patients who come to us wondering what they

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should do with the new-found information?

Since supplemental imaging after normal mammography findings can result in false positives and potentially unnecessary biopsies or treatment, Kerlikowski and colleagues investigated for which patients supplemental screening could be beneficial. In other words, which patients are at highest risk for interval cancer (invasive cancer diagnosed within 12 months of a normal mammogram), as these women would be most likely to benefit from supplemental imaging that could potentially detect a tumor not identified on digital screening mammography.

#### **Details of the study**

The researchers included 831,455 digital screening mammography examinations performed among 365,426 women aged 40 to 74 years who did not have a history of breast cancer or breast implants and had complete information on demographic and breast health history. To calculate breast cancer

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risk, they used the Breast Cancer Surveillance Consortium (BCSC) 5-year risk model, which requires 5 risk factors: first-degree relatives with history of breast cancer, history of breast biopsy, BI-RADS breast density, and race/ethnicity. They used breast density to stratify women by risk for interval cancer within the next year and to identify women at increased 5-year risk for breast cancer.

**In which patient populations are cases of interval cancer highest?**

The authors found the interval cancer rates to exceed 1 case per 1,000 mammography examinations among:

- women aged 70 to 74 years with heterogeneously dense breasts
- women aged 50 to 74 years with extremely dense breasts
- women with breast cancer risk of 1.67% or greater and extremely dense breasts (47.5% of women with extremely dense breasts)
- women with breast cancer risk of 2.50% or greater and heterogeneously dense breasts (19.5% of women with heterogeneously dense breasts).

The authors point out that, together, these 2 latter groups represent 24% of women aged 40 to 74 years with dense breasts, or 12% of women having screening mammography.

For women aged 40 to 49 years, interval cancer rates were less than 1 case per 1,000 examinations for all density categories. For 51% of these women with heterogeneously dense breasts, the 5-year risk of breast cancer was low to average (0% to 1.66%), with interval cancer rates of 0.58 to 0.63 per 1,000 examinations. For 52.5% of 40- to 49-year-old women with extremely dense breasts, the 5-year risk of breast cancer was low to average, with interval cancer rates of 0.72 to 0.89 cases per 1,000 examinations.

The interval cancer rate for women with scattered fibroglandular densities

**WHAT THIS EVIDENCE MEANS FOR PRACTICE**

BCSC 5-year risk combined with BI-RADS breast density can identify women at high risk for interval cancer to inform patient-provider discussions about alternative screening strategies, as the study authors state. However, there remains a huge gap in our knowledge about whether supplemental imaging in any of these risk groups improved stage of diagnosis or breast cancer-specific mortality.

Nearly all national guidelines groups (US Preventive Services Task Force,<sup>1</sup> American College of Obstetricians and Gynecologists,<sup>2</sup> National Comprehensive Cancer Network,<sup>3</sup> and the American Cancer Society<sup>4</sup>) concur that supplemental breast imaging should not be performed on women with dense breasts until there are reasonable data that demonstrate an improvement in stage of diagnosis or breast cancer mortality.

**>> MARK D. PEARLMAN, MD**

**FAST TRACK**

**Supplemental imaging should not be performed for dense breasts until reasonable data demonstrate improvement in stage of diagnosis or breast cancer mortality**

(BI-RADS B) and 5-year risk of 2.50% or greater was 0.90 cases per 1,000 mammography examinations.

Kerlikowski and colleagues conclude that breast density should not be the sole criterion for deciding whether supplemental imaging is justified because not all women with dense breasts have high interval cancer rates.

**References**

1. Calonge N, Petitti DB, DeWitt TG, et al. Screening for breast cancer: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2009;151(10):716-726.
2. American College of Obstetricians and Gynecologists. Practice Bulletin No. 122: Breast cancer screening. *Obstet Gynecol.* 2011;118(2 Part 1):372-382.
3. Bevers TB, Anderson BO, Bonaccio E, et al; National Comprehensive Cancer Network. NCCN clinical practice guidelines in oncology: breast cancer screening and diagnosis. *J Natl Compr Canc Netw.* 2009;7(10):1060-1096.
4. American Cancer Society. Breast Cancer Screening Guidelines. <http://www.cancer.org/healthy/informationforhealthcareprofessionals/acsguidelines/breastcancer-screeningguidelines/index>. Accessed June 17, 2015.

**Our focus on breast density continues next month**

**>> Why is breast density a weighty matter?**

*What will you tell your patient who asks about the clinical significance of dense breasts detected on her mammogram?*

Robert L. Barbieri, MD