

Case 15-2010: Mammography in Elderly Women

TO THE EDITOR: To justify routine screening mammography in older women, Muss et al. (May 20 issue)¹ cite Badgwell et al.,² who observed that breast cancer was detected at a lower stage and was associated with a higher rate of survival among women 80 years of age or older who underwent mammography than among those who did not undergo mammography. Berry et al.³ have pointed out that these authors ignored fundamental lead and length biases, and therefore any claim of a mortality benefit associated with screening mammography is voided.

Muss et al. correctly state that there is little evidence from randomized trials to recommend screening for women who are 70 years of age or older.³ Furthermore, since any reduction in breast-cancer mortality (one death averted for every 10 to 25 cancers detected on screening mammography, depending on age)⁴ is delayed several years, and the risk of death from other causes increases for older women, any benefit associated with screening mammography decreases with age.⁵ Finally, the harm of overdiagnosis (extreme length bias) and overtreatment of indolent tumors, including unnecessary early treatment of tumors that will eventually be palpable, is more likely in this older age group.^{3,5}

The benefit-to-harm ratio for screening mammography peaks in the 60-to-69-year age group.⁵ Screening for younger and older women has debatable net benefit.

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No potential conflict of interest relevant to this letter was reported.

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2. Badgwell BD, Giordano SH, Duan ZZ, et al. Mammography before diagnosis among women age 80 years and older with breast cancer. *J Clin Oncol* 2008;26:2482-8.
3. Berry DA, Baines CJ, Baum M, et al. Flawed inferences about screening mammography's benefit based on observational data. *J Clin Oncol* 2009;27:639-40.
4. Keen JD. Promoting screening mammography: insight or uptake? *J Am Board Fam Med* (in press).

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THE AUTHORS REPLY: As we stated in the case, the decision about the routine use of screening mammography in older women is complex and unlikely to ever be resolved by randomized clinical trials. Keen points out that the article by Badgwell and colleagues⁴ has been criticized previously for lead time and length bias.² Given that women in their 80s without intercurrent illness have an expectation of 5 years of survival, into their 90s, and that breast cancer in these women is likely to shorten their survival, it is not unreasonable to offer mammography to healthy older women on a case-by-case basis, even though controlled data supporting its use are not available.³ Moreover, discussions should address both the downside and the potential benefits of mammography. Since the impressive declines in breast-cancer mortality over the past decade are related to screening and the use of adjuvant systemic therapy,⁴ age alone should not be used as a criterion for screening recommendations.

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Since publication of their article, the authors report no further potential conflict of interest.

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3. American Cancer Society. Breast cancer. (Accessed August 30, 2010, at <http://www.cancer.org/Cancer/BreastCancer/DetailedGuide/breast-cancer-detection>.)
4. Berry DA, Cronin KA, Plevritis SK, et al. Effect of screening and adjuvant therapy on mortality from breast cancer. *N Engl J Med* 2005;353:1784-92.