

## Commentaire

## Screening mammography for women aged 40–49: Are we off the fence yet?

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**B**reast cancer is one of the leading causes of cancer-related death among women in North America.<sup>1,2</sup> Over the past 10 years, decreases in breast cancer mortality have occurred in several Western countries, including Canada, Britain and the United States.<sup>3</sup> These decreases can probably be attributed both to screening and to improvements in treatment.<sup>4</sup>

Since the efficacy of breast cancer screening was established for women aged 50 and older, debate has centred on the effectiveness of screening women under 50. An unusual degree of rancor has accompanied this debate in the United States.<sup>5</sup> In this issue (page 469) Jolie Ringash and the Canadian Task Force on Preventive Health Care take on squarely, and without blinking, the question of screening mammography among women aged 40–49 years.<sup>6</sup> The report updates the task force's 1994 recommendation<sup>7</sup> and includes newly available data from subgroup analyses in 2 Swedish trials<sup>8,9</sup> and from 2 meta-analyses.<sup>10,11</sup> Although in its 1994 report the task force decided that the evidence weighed against breast cancer screening in this age group (a grade D recommendation), it has now upgraded the recommendation for mammography to grade C, concluding that, for women aged 40–49, "current evidence ... does not suggest the inclusion of [screening mammography] in, or its exclusion from, the periodic health examination of women aged 40–49 years at average risk of breast cancer."

The report of the task force is meticulously presented. The strengths and weaknesses are described of each of the randomized trials in assessing the effectiveness of mammography in women in their 40s. As well, the findings are clarified by the calculation of the number needed to screen to avoid one death from breast cancer, for each of the trials for which appropriate data were available.

The report notes the relative lack of data on harms or risks of screening. Although the rate of false-positive mammograms is probably higher in the United States than in other countries,<sup>12</sup> including Canada, as the author points out, the downstream events ascribable to screening mammography may be substantial even when abnormal readings are uncommon.<sup>13</sup> In addition to the studies documenting increased anxiety,<sup>14</sup> my colleagues and I found increased use of primary care and mental health care services among women who had false-positive mammograms.<sup>15</sup>

With 7 randomized controlled trials that have included women aged 40–49, there still does not appear to be suffi-

cient evidence to make a clear call on the effectiveness of mammography for women in this age group. The ongoing British trial, with results expected in 2003,<sup>16</sup> may or may not answer the question definitively; the trial was designed with an 80% power to detect a 20% change in mortality after 10 years. What if the true benefit is less than 20%, as suggested by the latest meta-analysis of previous trials?<sup>10</sup> Furthermore, how will new imaging technologies (e.g., digital mammography, MRI and other novel approaches<sup>17</sup>) that are already being advocated for early breast cancer detection, especially in younger women, be evaluated? Perhaps high-risk subgroups of women will be identified (in studies with lower levels of evidence than randomized controlled trials) who will benefit from screening mammography or newer detection technologies while in their 40s. For example, women with benign breast disease,<sup>18</sup> a family history of breast cancer<sup>19</sup> or those with known genetic mutations that predispose them to breast cancer<sup>20</sup> may benefit from breast cancer screening at earlier ages.

The US National Institutes of Health Consensus Development Panel came to a conclusion in 1997<sup>21</sup> similar to the task force's current recommendation, and it advised that patients be involved in decision-making regarding screening mammography, although little guidance was offered as to how this should be done. Subsequent commentaries<sup>22–24</sup> have emphasized the importance of this aspect of the US consensus panel recommendation, and yet little more is known today than in 1997 on how to counsel women about breast cancer screening. It is known that women's assessments of their own risk of breast cancer may be incorrect<sup>25</sup> and that women's ability to comprehend terms such as risk reduction of breast cancer may be limited due to basic misunderstandings about how numbers relate to each other.<sup>26</sup> It is crucial that we learn more about how to counsel women so that they have accurate information about the benefits and risks of screening and how to engage their participation in shared decision-making.

Enquiries from young women patients about mammography still require me to pause in the midst of a clinical encounter. I share with these patients the lack of consensus among studies, and among expert organizations, regarding screening mammography for women in their 40s. I try then to turn the focus back to the woman herself — has she ever had a mammogram before? Did she have an age in mind at which she would start screening? Has she heard friends dis-

cuss their experiences of mammography? Open-ended questions often permit patients to share views and feelings they might have otherwise thought “unimportant.” Indeed, the perspective of the patient is the one that matters when the data for and against screening mammography are currently in equipoise.<sup>27</sup>

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## References

1. Wingo PA, Ries LAG, Rosenberg HM, Miller DS, Edwards BK. Cancer incidence and mortality, 1973–1995. *Cancer* 1998;82:1197–207.
2. Gaudette LA, Silberberger C, Altmayer CA, Gao RN. Trends in breast cancer incidence and mortality. *Health Rep* 1996;8:29–37.
3. Hermon C, Beral V. Breast cancer mortality rates are levelling off or beginning to decline in many Western countries: analysis of time trends, age-cohort and age-period models of breast cancer mortality in 20 countries. *Br J Cancer* 1996; 73:955–60.
4. Chu KC, Tarone RE, Kessler LG, Ries LA, Hankey BF, Miller BA, et al. Recent trends in U.S. breast cancer incidence, survival, and mortality rates. *J Natl Cancer Inst* 1996;88:1571–9.
5. Taubes G. The breast-screening brawl. *Science* 1997;275:1056–9.
6. Ringash J, with the Canadian Task Force on Preventive Health Care. Preventive health care, 2001 update: screening mammography among women aged 40–49 years at average risk of breast cancer. *CMAJ* 2001;164(4):469–76. Available: [www.cma.ca/cmaj/vol-164/issue-4/469.htm](http://www.cma.ca/cmaj/vol-164/issue-4/469.htm)
7. Morrison BJ. Screening for breast cancer. In: Canadian Task Force on the Periodic Health Examination. *The Canadian guide to clinical preventive health care*. Ottawa: Canada Communications Group; 1994. p. 788–95.
8. Bjurstam N, Bjorneld L, Duffy SW, Smith TC, Cahlin E, Eriksson O, et al. The Gothenburg Breast Screening Trial: first results on mortality, incidence, and mode of detection for women ages 39–49 years at randomization. *Cancer* 1997;80:2091–9.
9. Andersson I, Janzon L. Reduced breast cancer mortality in women under age 50: updated results from the Malmö Mammographic Screening Program. *J Natl Cancer Inst Monogr* 1997;(22):63–7.
10. Hendrick RE, Smith RA, Rutledge JH III, Smart CR. Benefit of screening mammography in women aged 40–49: a new meta-analysis of randomized controlled trials. *J Natl Cancer Inst Monogr* 1997;(22):87–92.
11. Gotsche PC, Olsen O. Is screening for breast cancer with mammography justifiable? *Lancet* 2000;355:129–34.
12. Elmore JG, Barton MB, Mocerri VM, Polk S, Arena PJ, Fletcher SW. Ten-year risk of false positive screening mammograms and clinical breast examinations. *N Engl J Med* 1998;338(16):1089–96.
13. Weil JG, Hawker JI. Positive findings of mammography may lead to suicide [letter]. *Br Med J* 1997;314:754.
14. Steggle S, Lightfoot N, Sellick SM. Psychological distress associated with organized breast cancer screening. *Cancer Prev Control* 1998;2:213–20.
15. Barton MB, Moore S, Polk S, Shtatland E, Elmore JG, Fletcher SW. Increased patient concern after false-positive mammograms: clinician documentation and subsequent ambulatory visits. *J Gen Intern Med* In press.
16. Reynolds T. British trial aims to settle mammography questions. *J Natl Cancer Inst* 1995;87:338–41.
17. Tazebay UH, Wapnir IL, Levy O, Dohan O, Zuckier LS, Zhou QH, et al. The mammary gland iodide transporter is expressed during lactation and in breast cancer. *Nat Med* 2000;6:871–8.
18. Dixon JM, McDonald C, Elton RA, Miller MR. Risk of breast cancer in women with palpable breast cysts: a prospective study. *Lancet* 1999;353:1742–5.
19. Sattin RW, Rubin GL, Webster LA, Huzo CM, Wingo PA, Ory HW, et al. Family history and the risk of breast cancer. *JAMA* 1985;253:1908–13.
20. Peto J, Collins N, Barfoot R, Seal S, Warren W, Rahman N, et al. Prevalence of *BRCA1* and *BRCA2* gene mutations in patients with early-onset breast cancer. *J Natl Cancer Inst* 1999;91:943–9.
21. National Institutes of Health Consensus Development Panel. National Institutes of Health Consensus Development Conference statement: breast cancer screening for women ages 40–49, January 21–23, 1997. *J Natl Cancer Inst* 1997; 89:1015–26.
22. Woolf SH, Lawrence RS. Preserving scientific debate and patient choice: lessons from the consensus panel on mammography screening. *JAMA* 1997; 278:2105–8.
23. Ransohoff DF, Harris RP. Lessons from the mammography screening controversy: Can we improve the debate? *Ann Intern Med* 1997;127:1029–34.
24. Ernster VL. Mammography screening for women aged 40 through 49: a guidelines saga and a clarion call for informed decision making. *Am J Public Health* 1997;87:1103–6.
25. Black WC, Nease RFJ, Tosteson AN. Perceptions of breast cancer risk and screening effectiveness in women younger than 50 years of age. *J Natl Cancer Inst* 1995;87:720–31.
26. Schwartz LM, Woloshin S, Black WC, Welch HG. The role of numeracy in understanding the benefit of screening mammography. *Ann Intern Med* 1997; 127:966–72.
27. Pauker SG. Contentious screening decisions: Does the choice matter? [editorial]. *N Engl J Med* 1997;336:1243–4.

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