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

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

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.[5] 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.[6] The report updates the task force's 1994 recommendation[7] and includes newly available data from subgroup analyses in 2 Swedish trials[8,9] and from 2 meta-analyses.[10,11] 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,[12] including Canada, as the author points out, the downstream events ascribable to screening mammography may be substantial even when abnormal readings are uncommon.[13] In addition to the studies documenting increased anxiety,[14] my colleagues and I found increased use of primary care and mental health care services among women who had false-positive mammograms.[15]

With 7 randomized controlled trials that have included women aged 40–49, there still does not appear to be sufficient 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,[16] 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?[10] Furthermore, how will new imaging technologies (e.g., digital mammography, MRI and other novel approaches[17]) 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,[18] a family history of breast cancer[19] or those with known genetic mutations that predispose them to breast cancer[20] may benefit from breast cancer screening at earlier ages.

The US National Institutes of Health Consensus Development Panel came to a conclusion in 1997[21] 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[22–24] 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[25] 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.[26] 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.[27]

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