Long Term Follow-up of Screening Mammography
25 Year Follow-up for Breast Cancer Incidence & Mortality of the Canadian National Breast Screening Study: Randomised Screening Trial

Why is this important?
The benefits and harms of screening mammography remain controversial. Systematic reviews have shown a small benefit of screening mammography, as well as certain harms. This is a twenty-five year follow-up of a large randomized trial of mammography.

Facts
- The Canadian National Breast Screening Study randomized 89,835 women to receive either annual mammography plus breast examination or breast examination alone. The breast examination was an initial breast exam followed by usual community care for participants ages 40 to 49 or an annual breast examination for those ages 50-59. The intervention lasted for 5 years. The current study presented long-term follow-up over an average of 22 years. All breast exams were performed by trained nurses and took approximately 10 minutes.

Over the course of 22 years:
- 108 in 10,000 women died of breast cancer in the mammography group and 110 in 10,000 women died of breast cancer in the control group. Mammography had no effect on breast cancer mortality.
- The study estimated that 23 in 10,000 women in the mammography group were diagnosed and treated for breast cancer which never would have made them sick, known as “overdiagnosed” cancer.

The Bottom Line
Mammography screening, compared with clinical breast exam, over a 5 year period did not prevent mortality after 22 years of follow up in a large Canadian study. Overdiagnosis of a clinically insignificant cancer was seen in 23 in every 10,000 screened women.
Strength of Evidence
(Adapted from Guyatt G BMJ, 26 April 2008)
This refers to the degree to which the findings of this study are likely to be free of bias.

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Tips for Discussion of Results with Patients

- In this study, annual mammography plus clinical breast exam did not prevent mortality compared with a thorough clinical breast exam alone after long-term follow-up.
- Annual mammography detected a significant number of small, non-palpable breast cancers, but approximately half of these were examples of overdiagnosis. Overdiagnosis of a clinically insignificant breast cancer occurred in approximately 23 of 10,000 women screened.
- This data is already reflected in meta-analyses which have estimated that mammography does prevent breast cancer mortality\(^2\), so it may not change our overall understanding of the benefits of mammography.

References

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The Bottom Line summaries reflect the expertise and opinions of the SGIM EBM Task Force as of the date of release of this summary.