

Screening Mammography and Overdiagnosis of Breast Cancer

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Nov 29, 2012

Hello. I'm Andrew Kaunitz, Professor and Associate Chair of the Department of Obstetrics and Gynecology at the University of Florida College of Medicine in Jacksonville, Florida. Today I'd like to discuss screening mammography and overdiagnosis of breast cancer.

Screening intended to reduce cancer mortality should meet 2 criteria:

- First, screening should facilitate earlier detection of cancers destined to cause death;
- Second, treatment of cancers diagnosed by screening should be associated with better outcomes.

In a recent issue of the *New England Journal of Medicine*, investigators used 3 decades of federal data to evaluate the long-term effect of screening mammography. ^[1] The analysis began in the mid-1970s, when mammography screening was uncommon, and continued until 2008.

During these 3 decades, the incidence of early-stage breast cancer increased by more than twofold, reflecting more diagnosis of localized invasive lesions as well as ductal carcinoma in situ, a preinvasive condition that was rarely diagnosed prior to widespread mammographic screening.

During the same interval, the incidence of late-stage disease declined by less than 10%.

The authors estimate that overdiagnosis, defined as identification of tumors destined not to progress to advanced disease that are attributable to screening mammography, has affected 1.3 million women over the past 3 decades. This includes the overdiagnosis of 70,000 women in 2008, a number that accounts for almost one third of tumors diagnosed in women 40 years of age and older.

During the 3 decades encompassed by this study, mortality from breast cancer among women aged 40 years and older has decreased by 28% while decreasing by 42% in women younger than 40 years of age, a group in which screening was not prevalent. During this same time period, however, the incidence of late-stage disease has decreased only minimally among screened women.

By promoting early diagnosis of breast cancer, screening mammography saves lives. However, and consistent with other recent reports, ^[2,3] this study suggests that screening's contribution to the decline in breast cancer mortality is surpassed by that of better treatment. The study also suggests that the benefits of screening mammograms are smaller and the harms associated with overdiagnosis from screening are greater than we have recognized. ^[1]

This viewpoint supports the 2009 US Preventive Services Task Force (USPSTF) guidelines, which recommend that women begin biennial mammograms at age 50 years. ^[4] In the future, comprehensive genetic analysis of breast tumors may allow cancers to be distinguished according to their potential to cause advanced disease. ^[5] Until then, the pros and cons of mammography should be incorporated into the counseling that women receive prior to making decisions regarding screening. ^[6]

Thank you. I am Andrew Kaunitz.

References

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Cite this article: Screening Mammography and Overdiagnosis of Breast Cancer. *Medscape*. Nov 29, 2012.