

SYMPOSIUM

A Close Call: The Role of Screening Mammography in the Fight Against Breast Cancer

Health and Medicine for Women: A Multidisciplinary, Evidence-Based Review of Mid-Life Health Concerns

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A multidisciplinary panel debated the role of screening mammography in fighting breast cancer during the Health and Medicine for Women continuing medical education (CME†) conference at Yale Medical School in September 2010. Different guidelines from professional societies have presented conflicting recommendations for patients regarding both the benefits of mammography and the appropriate age and frequency of screening. In addition, a recent longitudinal study argues that screening mammography may only offer a modest benefit in terms of reducing cancer mortality. In light of these considerations, the panel debated whether mammography should be an informed decision that must be discussed and individualized for each patient based on the context of risk factors such as family history, age, and genetic dispositions.

Arguments about mammography are not going to go away, said Dr. Ronald Lannin, Professor of Surgery and Director of the Yale-New Haven Breast Center, in response to questions regarding the efficacy of mammography as a screening tool for breast cancer during a panel discussion at Yale Medical School's Health and Medicine for Women conference in September 2010.

The role of screening mammography in fighting cancer has been a focus of special attention and debate during the past year, as different guidelines from professional societies have presented conflicting recommendations for patients regarding both the benefits of mammography and the appropriate age and frequency with which to get screened.

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†Abbreviations: CME, continuing medical education; USPSTF, U.S. Preventive Services Task Force; *NEJM*, *New England Journal of Medicine*.

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When the U.S. Preventive Services Task Force (USPSTF) [1] released a new statement in November 2009 recommending against the use of routine screening mammography in women aged 40 to 49, it raised a groundswell of rejection nationwide both from providers in the medical community and patients. The statement also recommended that women between the ages of 50 and 74 have mammograms less frequently — every two years, rather than every year. The recommendations were confusing for many as they went against longstanding guidelines, including those from the American Cancer Society [2], encouraging women to have yearly mammograms starting at age 40. However, as claimed by the USPSTF, the revised guidelines aimed to reduce potential harm associated with over-treatment and false-positive results of mammograms. Those include psychological stress, unnecessary imaging tests and biopsies in women without cancer, or over-diagnosis of lesions that would not shorten a woman's life even if they were to become clinically apparent.

Further adding to this controversy is a recent study by Kalager et al. [3], "Effect of Screening Mammography on Breast Cancer Mortality in Norway," published in the September 2010 issue of the *New England Journal of Medicine (NEJM)*. The study looked at what occurred in Norway before and after 1996, when the country began to implement its Breast Cancer Screening Program, offering mammograms to all women between the ages of 50 and 69. Simultaneously, the country organized multidisciplinary breast cancer teams composed of radiologists, pathologists, surgeons, oncologists, and nurses to treat women with breast cancer regardless of age. The study analyzed 40,075 women with breast cancer and found a 10 percent reduction in mortality among women who received both screening mammography and modern cancer treatment. Yet to the investigator's surprise, the group that was not eligible for screening mammography due to their age still had a significant mortality reduction of 8 percent — a reduction that reflected the establishment of mod-

ern multidisciplinary treatments rather than screening mammograms. The reduction reflected the establishment of modern multidisciplinary treatments rather than screening mammograms. What this means, according to Dr. H. Gilbert Welch in an accompanying editorial [4] to the study, is that "the relative reduction in mortality due to screening mammography alone could be as low as 2 percent." Overall, the study concluded that screening mammography reduces the rate of death from breast cancer, although the percentage of its benefits is modest.

"The bottom line is that there is a benefit to mammography, but it's pretty small," Dr. Lannin said during the panel discussion at the Yale conference. "I think the general assumption of the benefit of mammography is overrated. It's only about 10 percent of the time where the cancer found on a mammogram really makes a difference as opposed to waiting until you find it on the physical exam. In 20 percent of the cases, the cancer is already incurable by the time it's found on the mammogram. In another 20 percent, the mammogram diagnoses a cancer that is irrelevant or one that would have never bothered the patient in the rest of her lifetime."

Other members of the panel included Dr. Erin Hofstatter, who recently joined Yale's Division of Breast Oncology as an Assistant Professor in Medical Oncology; Ellen Matloff, MS, Director of Cancer Genetic Counseling at Yale Cancer Center; and Dr. Lubina Pal, Director of the Programs for Reproductive Aging and Bone Health and Polycystic Ovary Syndrome in Yale's Reproductive Endocrinology Department.

As far as the panel's current screening recommendation for practice at Yale, Dr. Lannin's recommendation is to follow what most other agencies are comfortable with: "Start at age 40 and go from there."

Dr. Hofstatter agrees: "I would start annually at age 40. Granted, I am biased because I see women who are 40, and their cancer got picked up on mammogram."

By highlighting the modest benefits of mammography, Kalager et al. remind observers in the medical community and the general public that the decision to undergo

mammography is in fact a close call. As Dr. Welch put it in the *NEJM* editorial, it's a "delicate balance between modest benefit and modest harm." It should be an informed decision that must be discussed and individualized for each patient based on the context of risk factors such as family history, age, and genetic dispositions.

"The bottom line is that the mammography is not perfect, but it's what we have right now," Matloff said. "We need more data. What we may see 10 years from now is that everyone in the population will have genetic studies, and based on your genetic screen, some will start mammogram at 25, some at 40, and others may not need it until 55.

"But we are not there yet."

REFERENCES

1. U.S. Preventive Services Task Force. Screening for breast cancer: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2009;151(10):716-26.
2. American Cancer Society. American Cancer Society Guidelines for the Early Detection of Cancer [Internet]. [cited 1 Oct 2010]. Available from: <http://www.cancer.org/Healthy/Find-CancerEarly/CancerScreeningGuidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer>.
3. Kalager M, Zelen M, Langmark F, Adami H. Effect of screening mammography on breast-cancer mortality in Norway. *N Eng J Med.* 2010;363:1203-10.
4. Welch GH. Screening mammography — A long run for a short slide? *N Engl J Med.* 2010;363:1276-8.