Breast Cancer Screening: Early Detection Is Not Enough

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I’ve never known a woman who looks forward to getting her annual mammogram.

Nonetheless, uncomfortable and anxiety-provoking as it can be, breast cancer screening is effective. While lead time, length and healthy volunteer bias cannot be ignored, numerous randomized controlled trials and meta-analyses have consistently demonstrated a reduction of 25–35% in breast cancer mortality associated with routine screening mammography among women age 50–74 years and a reduction of 10–18% among women age 40–49 years. A recently published Canadian study following almost 2.8 million women (85% of the country’s female population) reported 40% less breast cancer-related mortality in patients who participated in screening programs versus those who did not (standardized mortality ratio = 0.60, 95% confidence interval 0.52–0.67). Interestingly, the age at which a woman started screening did not greatly affect the magnitude of this mortality reduction.

Generally, screening is performed with the intent of detecting cancer early and thereby increasing a person’s chance of survival from the disease. Cancer screening tests are selected based on their abilities to test asymptomatic populations for disease on a large scale at minimal cost. The test must have a high detection rate of early-stage cancer in order to enable intervention that can lessen future suffering or mortality associated with the disease. In this issue of Journal of Patient-Centered Research and Reviews, two modes of breast cancer screening — radiographic imaging and physical examination — are eloquently reviewed and summarized for today’s practice. Dr. Jennifer Lo astutely acknowledges that currently there is insufficient evidence to state clinical breast exam is associated with any survival benefit; however, it may serve, on an individualized basis, as an adjunct to detect heretofore mammographically occult interval cancers, which are more prevalent in women age 40–49 because of decreased mammographic sensitivity attributable to greater breast density in 68% of cases. Dr. Summer Jatala and colleagues propose timing and screening modalities specifically for women with personal or family risk factors. Breast cancer screening undergoes continuous and intense scrutiny and revision, and recommendations based on a summary of current literature are appreciated by the busy primary care provider faced with constantly evolving data.

Of course, screening programs are only effective for those women who choose to participate. It is important to note that the patient must assume some responsibility for her health and make the effort to attend the clinical breast exam and/or screening mammography appointment. This may sound simple, but, in fact, 33% of women age ≥40 years who are eligible for screening mammography do not participate, with the percentage rising to 36% for Hispanic women. In 2010, 70% of patients with no health insurance for more than 12 months did not undergo mammography in spite of innumerable free screening programs offered nationwide.

Unfortunately, the current state of breast cancer screening, whether by clinical breast exam or mammography, is fraught with drawbacks and limitations.

Early detection comes at a price, both in time and money. That premium is paid by the 1,339 women age 50–59 invited for screening before one breast cancer death is prevented, a number that rises to 1,904 when looking at women who start screening in their 40s. The expense is also shouldered by society as a whole, which must find a way to pay for the approximately 50 million screening mammography exams per
Editorial

In this era of tissue and serum biorepositories, electronic medical records and emerging genetically targeted cancer therapies, we may soon have the capability to analyze the biological samples of women with early noninvasive disease who subsequently develop invasive cancer, identify distinguishing biomolecular signatures from those samples and then develop targeted therapies that abort the process of carcinogenesis. Until then, our best hope for reducing breast cancer-related suffering and mortality is early detection through screening and continued research supported by clinical trials.
REFERENCES


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