SUZANNE M. MAHON, RN, DNSc, AOCN®, APNG
ASSOCIATE EDITOR

Evidence-Based Practice: Recommendations for the Early Detection of Breast Cancer

Suzanne M. Mahon, RN, DNSc, AOCN®, APNG

The American Cancer Society (ACS) estimates that in 2003, 211,300 women will be diagnosed with breast cancer and 39,800 women will die from the disease (Jemal et al., 2003). The mortality associated with breast cancer has decreased because of increased awareness of and participation in early detection methods. The three primary tools used for the early detection of breast cancer are breast self-examination (BSE), clinical breast examination (CBE) by a healthcare provider, and mammography. Each detection tool has it own inherent strengths and weaknesses.

Recommendations for the early detection of breast cancer vary among agencies. Controversy continues about the choice of screening tests, recommended intervals for testing, and populations to be screened for cancer. This confusion stems from differences in populations considered (e.g., women of different ages), varying thresholds for acceptance of effectiveness of tests (e.g., sensitivity, specificity), costs, risks associated with screening tests, and the underlying mission of the recommending agency (Foltz, 2000).

Many types of agencies issue guidelines, including governmental agencies, disease-related organizations, and organizations of health professionals. Table 1 provides an overview of some of the current recommendations from a variety of agencies for the early detection of breast cancer. Most of these recommendations do not include an upper age limit for when screening should be stopped. The decision to continue screening is individualized and usually based on the overall health of the woman.

Breast Self-Examination

Systematic monthly BSE has been recommended for the past 70 years despite a lack of compelling evidence that it reduces the morbidity associated with breast cancer (Austoker, 2003). More than 30 nonrandomized trials have produced conflicting results about the efficacy of BSE (Harvey, Miller, Baines, & Corey, 1997).

Confusion regarding BSE stems from many sources. Several methods have been suggested over the years, including vertical, strip, and circular (American Cancer Society, 2003a). Of the agencies that recommend BSE, most suggest that it be done monthly, which is based on the menstrual cycle, despite the fact that most women who develop breast cancer are postmenopausal.

Women need to be informed about the limitations of BSE. The screening method is dependent on the skill of the women performing BSE. Women who examine their breasts more carefully and regularly may be able to detect subtle changes and achieve earlier diagnosis. When women detect abnormalities in their breasts, anxiety can be heightened. When BSE results in unnecessary biopsies, the method's financial costs are increased.

However, the regular practice of BSE has inherent strengths. Most importantly, it makes women aware of their own anatomy and the importance of engaging in the practice of early detection. Women may be able to detect subtle changes in the intervals between professional examinations (i.e., CBE and mammography, which usually are performed annually), which might lead to the earlier detection of lesions (Sterns, 1998). The financial costs of BSE to women are negligible because it is performed in the privacy of their own homes at convenient times.

Will a randomized trial ever be conducted to evaluate the effectiveness of BSE? Conducting a trial in which women would be randomized to not practice BSE when it may indeed be beneficial would be ethically difficult. Many trials examining the efficacy of BSE have been conducted outside of the United States. Whether BSE might be beneficial in the United States because the incidence of breast cancer is higher is uncertain (Humphrey, Helfand, Chan, & Woolf, 2002).

Clinical Breast Examination

CBE, like BSE, is a controversial screening tool. Few randomized CBE studies have been performed, and the method's quantitative effectiveness is unknown. CBE's sensitivity (the probability that the test result will be positive if breast cancer is present) has been reported to range from 40%–69%, and its specificity (the probability that the test result will be negative if breast cancer is not present) ranges from 88%–99% (Humphrey et al., 2002). To date, no trial has examined the effectiveness of CBE as a sole breast cancer screening tool. Trials in which CBE was combined with mammography have demonstrated a mortality reduction of 14%–29% (Humphrey et al.).

The usefulness of CBE in the early detection of breast cancer is, in part, related to the skill of the healthcare provider performing the examination. Competent, thorough providers may be more effective in detecting clinical changes. When CBE is performed prior to mammography, it may be useful in identifying an area of suspicion that might

Suzanne M. Mahon, RN, DNSc, AOCN®, APNG, is an assistant clinical professor at Saint Louis University in Missouri.

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