

The Reliability of Mammography

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Breast cancer is a very serious public health problem. It is the second leading cause of cancer deaths in women, and its political and socioeconomic implications are enormous! The incidence of breast cancer has more than doubled in the past 30 years: In 1964, the lifetime risk was 1 in 20; today, it is 1 in 8. More than 180,000 women in the United States are diagnosed with breast cancer each year. Breast cancer is not only one of the leading causes of death in women in general, but also the leading cause of death in American women ages 40-55.

The leading risk factor for developing breast cancer is simply being female; the next most important risk factor is age. Breast cancer risk increases directly with age. The American Cancer Society recommends that women ages 20 and older perform monthly breast self-examinations and receive a physical examination every three years, and that women age 40 and older receive an annual mammogram and physical examination. Mammography is still touted as the single most effective method of screening, but it fails to detect as many as 20 percent of breast cancer cases in women over age 50, and as many as 50 percent in younger women.

There have been many papers published in the past 12 years concerning breast MRI, and virtually all of them indicate that MRI is a technique with incredibly high sensitivity for the detection of breast cancer. It has a specificity far better than conventional mammography, and yet few professionals are doing it. For some reason, it has not gained any popularity in the medical community at large.

Why is breast MRI not readily available? Reasons include cost; difficulty understanding this imaging modality; time required to train a professional to use the modality; and the medical community itself. This last reason is most disturbing. Many radiologists and mammographers have spent enormous amounts of money and time trying to convince the government and the public of the value of X-ray mammography. To "shift gears" now would be difficult - even embarrassing. In short, it is a very touchy subject.

The purpose of this article is to inform and allow readers to develop their own opinions. So, here are some interesting facts:

- The incidence of breast cancer is on the rise.
- Breast cancer is a leading cause of death in women 40 to 55 years of age.
- Claims for the benefit of screening mammography in reducing breast cancer mortality are based on eight international controlled trials involving approximately 500,000 women.
- Recent meta-analysis of these trials revealed that only two, based on 66,000 postmenopausal women, were adequately randomized to allow for statistically valid conclusions. (See Gotzsche PC, Olsen O. Is screening for breast cancer with mammography justifiable? *Lancet* 2000;355:129-134.) Based on these two trials, the authors found "no reliable evidence that screening decreases breast cancer mortality - not even a tendency toward an effect." Accordingly, the authors concluded that there is no longer any justification for screening

mammography. This conclusion is detailed in the position statement by the National Breast Cancer Coalition (www.natlbcc.org/bin/index.asp?strid=560&depid=9&btid=1).

- A pooled analysis of several 1993 studies showed that women who regularly performed breast self-examination (BSE) detected their cancers much earlier, and had fewer positive nodes and smaller tumors, than women who failed to examine themselves. (See Smigel K. Perception of risk heightens stress of breast cancer. *J Natl Cancer Inst* 1993;85(7):525-526.)
- There is a strong consensus that the effectiveness of BSE depends critically on careful training by skilled professionals, and that confidence in BSE is enhanced with annual CBEs by an experienced professional using structured individual training. (See Leight SB, et al. The effect of structured training on breast self-examination search behaviors as measured using biomedical instrumentation. *Nurs Res* 2000;49(5):283-289.)

What does this all mean? Take a look at the National Breast Cancer Coalition site, and then determine the reliability of mammography yourself.

To date, there is only one reliable screening procedure: the BSE. Early detection is paramount in saving lives. Mammography is not a reliable screening modality. Now, here's the rub: MRI is too expensive presently to use as a screening modality, and not easily available to the general population. We are left with BSE, and clinicians who still send women out for mammograms when women find something on their own BSEs. This is not good medical practice. Both the clinician and the patient are uninformed or just ignoring the facts. This disease process is increasing in over half the population, with no cost-effective means of screening for the disease - with the exception of self-examination. Moreover, the majority of clinicians and the population still rely on a modality that is not reliable. I remind you of the old adage, "Let the buyer be ware." Or is it, more appropriately, "What you don't know can hurt you"? Everyone needs to take responsibility for his or her own health and stay informed.

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