



Breast Density: Well-established Risk Factor

The primary goal of the Be Aware Foundation is to inspire women to follow early detection guidelines. As reported in previous issues of Ask the Doctor, starting screening mammography at age 40 years and repeating it annually results in more than 40% reduction in breast cancer mortality. Evolving improvements in screening such as use of digital mammography could lead to further improvements in mortality reduction.

Despite the dramatic success of mammography in detecting early stage breast cancers, there is still room for major improvements. In women whose breasts are primarily made up of fatty tissue, the mammogram is extremely effective in detecting small cancers. The fat provides a black background. Cancers typically show up as white densities or white spots of calcium. Thus, detecting small cancers in fatty breasts is relatively easy.

Detecting small cancers in women with dense breasts is much more challenging. In dense breasts the background is mostly white. Attempting to visualize a small "white" cancer in a dense breast has been compared to the challenge of finding a snowman in a snow storm. Dense breasts are the norm in pre-menopausal women, for example over 70% of women in their 40s have dense breasts. Although dense breasts are less common in post-menopausal women, 54% of women in their 50s and 42% of women in their 60s have dense breasts. The miss rate for detecting small cancers in women with dense breasts approaches 30%.

What are women with dense breasts to do? For most women with dense breasts and no family history, yearly screening with digital mammography is all that is required at the present time. However, for women with strong family histories of breast or ovarian cancer, more aggressive screening must be considered.

One of the biggest breakthroughs in breast cancer screenings was reported in the prestigious NEJM in 2004*. The study compared mammography screening to screening with both mammograms and MRIs. Their findings demonstrated the superiority of the MRI in detecting a greater percentage of early staged breast cancers. Current MRI technology is much superior to what was used in the NEJM study which will undoubtedly lead to even better results.

MRI has both its advantages and disadvantages. Of course, its primary benefit is effectiveness in finding very small cancers. Also, the MRI does not use radiation. The primary disadvantage of the MRI is cost. In Orange County the cost of a breast MRI can exceed \$5,000 dollars. Not surprisingly, insurance companies are reluctant to approve breast MRI because of the obvious concerns of how it would impact skyrocketing health care costs.

At present most insurance companies will cover the cost of an MRI if the physician can provide evidence that the woman's lifetime risk of getting breast cancer is 20% or more. The lifetime risk can be determined by using established formulas such as the Gail model to determine risk. Unfortunately, the commonly used Gail model underestimates risk for women with multiple family members with breast cancer. Accurate assessment of risk often requires the use of more sophisticated risk assessment tools that are not generally available to most women. Women who want more information on risk assessment can contact us.

One additional issue of major concern is that none of the existing models takes into account the important issue of breast density. Breast density is a well-established risk factor for breast cancer, and many states have passed laws requiring mammography programs to inform women with dense breasts that they are at higher risk for getting breast cancer. Similar legislation was recently vetoed by Gov. Jerry Brown who based his decision on the assumption that there is no consensus on what to do with the information on breast density.

Gov. Brown is correct in stating that there is no consensus on what to do with the information, but women do not necessarily need a consensus to make informed decisions on personal health care issues. Let's face it, if MRI



were less costly, all women with dense breasts would be encouraged to have them. But what Brown and the insurance companies do not take into consideration is that medical costs are dramatically reduced when breast cancers are caught early.

The cost of treatment of early stage breast cancer is in the range of \$30,000 dollars, and survival rates approach 100%. In contrast, the initial cost of treatment of more advanced cancers can exceed \$50,000 dollars. More importantly, these more advanced cancers are also associated with higher risks of recurrence. The long-term costs for treating patients with metastatic cancer can easily exceed \$500,000 dollars. Unfortunately, politicians and insurance companies focus on short term cost-containment solutions, and rarely accept the challenge of understanding the big picture.

So what is a woman to do? Certainly if you have a strong family history, you should encourage your health care provider to do a risk assessment or ask to be referred to a risk assessment program. If your risk is 20 or more, the insurance will likely cover the cost of the MRI. But, what if you have dense breasts and a family history of breast cancer, but a lifetime risk score of less than 20?

Ideally, we would screen all women with dense breasts with an MRI, but at present the out-of-pocket costs are prohibitive for most women. What is urgently needed is to lower the cost of the MRI so that it becomes affordable for most women. We are working on such a program.

*Kriege M, et-al. Efficacy of MRI and Mammography for breast cancer screening in women with a familial or genetic disposition. *NEJM*. 351:427-437

If you have any questions on the value of screening mammography or other questions on breast care, feel free to Ask The Doctor or contact us.