Tissue Density May Influence Risk for Breast Cancer

California law requires that women be informed if a mammography shows they have dense breast tissue. This legislation is intended to encourage women with dense breast tissue to discuss breast-cancer risk and screening with their doctors. Such information is part of a growing trend aimed at individualizing breast-cancer screenings, says Deanna J. Attai, MD, an assistant clinical professor of surgery and president of the American Society of Breast Surgeons.

"Screening mammography is one-size-fits-all, but breast-cancer risk is not one-size-fits-all," she says.

The breast is composed of fat and glandular tissue — the higher the proportion of glandular tissue, the denser the breast. It is more difficult for a radiologist to spot a potential tumor in dense breast tissue, which means cancer may be missed during mammography. Independent of detection challenges, studies also show that women with dense breast tissue have a higher risk of developing breast cancer, says Lawrence Bassett, MD, a professor of radiology and section chief at the Iris Cantor Center for Breast Imaging.

"Most experts now believe that there is a risk factor involved in breast density," he says. "It makes some sense because breast tumors don't come from fat; they come from fibroglandular tissue."

However, there are no guidelines from medical organizations on whether or not women with dense breasts who are at average risk for breast cancer should undergo additional screening or have a different type of screening, such as a digital breast tomosynthesis (3-D mammography), MRI or ultrasound. "We know additional imaging will pick up more breast cancer, but we don't have long-term data to suggest that will actually help with survival rates," Dr. Bassett says.

Currently, there are no simple answers on how women with dense breasts should approach screening. One option is for women with dense breasts to undergo tomosynthesis, Dr. Bassett says. "With tomosynthesis, we see the breast tissue in 1 millimeter slices in addition to the composite image. If there is tissue covering a tumor, it should appear on tomosynthesis."

For women with very dense breasts, doctors may recommend ultrasound imaging in addition to mammography, he says. And for women with a breast-cancer risk that is 20 percent or higher than average, breast MRI should be considered, Dr. Bassett says.

Increasingly, doctors are focusing on each patient's individual risk factors to advise patients on screening, Dr. Attai says. Doctors and patients also should discuss the fact that additional screening may produce a higher rate of "false positives" (areas that look suspicious but aren't cancer), which can lead to additional tests and anxiety for the patient.

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"Doctors should consider family history, age, weight, whether or not the patient used hormones, breast density and other factors we know can contribute to their risk of breast cancer," Dr. Attai says. "I think it's also important that physicians have a discussion with women about the potential downside of picking up every little thing."