"Mass" Confusion

My friend had breast cancer and her mammogram was normal. Why should I get one?

One of the hardest things to explain to a woman who has just been diagnosed with breast cancer is why her mammogram was completely normal even though she felt an obvious breast lump. Fortunately, this does not happen very often, but when it does, it undermines a woman’s confidence in the value of mammography. I find the “scientific explanation” for how the mammogram could fail to “see” an obvious lump to be confusing, so I am not going to try to provide a technical explanation. However, if any of our readers have a rational explanation for this phenomenon, I would be glad to share it with the readers in future issues of “Ask the Doctor.”

The most important lesson to take from this observation that mammograms do not always work is that it is important for women to be aware of this lesson and to know how to respond to it. The question is: what is a woman to do if she or her doctor finds a new lump and the mammogram is normal? The usual next step (we would do this in 100% of the cases) is to do an ultrasound examination of the lump. The vast majority of breast cancers that present as lumps and are not seen on the mammogram are quite obvious on ultrasound.

This discussion also brings up the important point of differentiating between a screening mammogram and a diagnostic mammogram. A screening mammogram is done yearly after age 40 in women who have no breast symptoms. When a women or her doctor find a new breast lump on a screening mammogram, a diagnostic mammogram should be ordered. The ordering physician should note the location of the area of concern and the patient should also make certain that the technician doing the examination is aware of the lump. Once the mammography technician is aware there is concern about a breast lump, additional mammographic views will be performed that focus in on the areas of concern. In most cases an ultrasound examination will be done at the same time.

If the diagnostic evaluation demonstrates an area of concern, the patient would then undergo some form of tissue sampling to determine the nature of the problem. In the case of a normal diagnostic mammogram, it is up to the treating physician and the patient to decide what to do next. In the case of a lump that is clinically benign (i.e. not judged to be cancer) the alternatives are a short interval follow-up (1-3 months depending on the level of concern by the treating physician: also note; menstruating women should be reevaluated 5-10 days after the start of their menstrual period). The second option would be referral to a breast care specialist.

The main point is that any new lump that does not undergo some form of tissue sampling must be followed carefully. If the lump disappears at the 2-3 month interval follow up, the patient can return to routine follow up. If the lump persists, tissue sampling will be required. In most cases this can be easily performed in the office under local anesthesia. In the case of a simple cyst, an aspiration of fluid is all that is required along with a follow up exam to insure that the cyst does not recur. In the case of a solid mass, a needle is used to remove cells or tissue that can be analyzed by the pathologist.

In the case of an obviously benign lump such as a fibroadenoma, the patient may choose surgical removal rather than having a needle biopsy. However, if there is any question of a potential for cancer, a needle biopsy should be done first.
Women under 30 years of age

Women under the age of 30 year should avoid having a mammogram as the first diagnostic procedure. In these women the risk of cancer is very low, the breasts are typically dense and difficult to visualize using mammography, and younger women are more vulnerable to long term side effects from exposure to radiation. The diagnostic procedure of choice in these women is the ultrasound, which is the only imaging procedure that is needed in most cases.

In the very unusual situation in which breast cancer is being seriously considered, a diagnostic mammogram is an option. The decision to order a mammogram in this age group should be made by a physician who is experienced in providing breast care.

Role of the MRI

In most cases the mammogram and ultrasound are all the imaging procedures needed to evaluate breast lumps. However, there are unusual circumstances where an MRI study is of benefit. This usually occurs when all the imaging studies are negative and there is still a clinical concern that there may be a hidden breast cancer. The MRI is very sensitive to detecting cancers that are not visualized on routine diagnostic studies, but it has its drawbacks. The study is expensive and it often leads to extra procedures. The MRI will often see areas of change that are labeled as indeterminate. This often leads to biopsies that end up being benign. Because of these reasons, the MRI should only be ordered in highly select cases by a physician experienced in breast care.

Conclusion

Despite the value of screening mammograms in the early detection of breast cancer, a large percentage of breast cancers present as lumps. This is especially true in women less than 40 years old who are not yet participating in regular screening programs. If caught early, most women who present with lumps can anticipate a high probability of survival. However, women must be aware that although the early detection of a potentially curable cancer can be as simple as participating in yearly mammographic screening, there are situations where the diagnosis can be very challenging. Knowing the limitations of mammography is an important reminder that to consistently make the diagnosis of early cancer, women and their caregivers must be knowledgeable and diligent. It is also an important reminder of the fourth Be Aware guideline: “when in doubt, get a second opinion.”

If you have questions or comments, please contact us.