

Breast MRI spots other cancers, may alter treatment plan

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In about 20 percent of women with breast cancer who plan to undergo a lumpectomy, breast magnetic resonance imaging reveals important diagnostic information that alters their treatment plan, University of Florida surgeons reported today (Dec. 5).

This study was presented at the 119th annual meeting of the Southern Surgical Association, held Dec. 2-5 in Hot Springs, Va., and will appear in the May 2008 issue of the *Journal of the American College of Surgeons*.

MRI, which is not routinely administered to these patients, can find additional cancerous areas in the breast that previously evaded detection, discover cancer in the opposite breast that standard imaging tests such as mammography and ultrasound missed, or determine a tumor is actually larger than expected, the doctors say.

Some of these women end up needing a total mastectomy instead of breast-conserving lumpectomy. Others whose tumors are bigger than indicated on standard imaging could be less likely to face a second operation to remove cancerous cells left behind after a tumor is removed if MRI findings signal the need for surgeries to be more aggressive.

Either way, UF surgeons say MRI can help confirm which women are indeed candidates for a breast-sparing operation.

“In these patients, we did one of three things: We offered them a

mastectomy, we offered them another treatment — preoperative chemotherapy to shrink the lesion and allow us to save the breast — or, in some cases, we could perform a more precise excision to remove the cancer,” said Stephen R. Grobmyer, M.D., an assistant professor of surgical oncology and endocrine surgery in the UF College of Medicine’s department of surgery.

“When you operate for breast cancer, you need to achieve clear margins around the tumor,” he added. “This inability to clear the margin is a problem that continues to plague both breast surgeons and patients. In some recent reports the margin-positive resection rate for breast cancer is up to 50 percent.”

Findings from the UF study, a retrospective review of 79 women ages 29 to 82 who had localized noninvasive or early stage invasive breast cancer and were planning to have a lumpectomy, were presented at the Southern Surgical Association’s 119th annual meeting in Hot Springs, Va. Study participants had undergone preoperative MRI — which provides highly detailed images of the breast, particularly in women whose breast tissue is very dense — for diagnostic purposes and, when indicated, MRI-directed biopsies for preoperative evaluation of suspicious areas between January 2006 and July 2007.

“We’re talking about MRIs for patients who have breast cancer and would like to save the breast, to make sure there is (no other cancer) in the breast that would eliminate them from breast conservation,” said Edward M. Copeland III, M.D., the Edward R. Woodward professor of surgical oncology and endocrine surgery at UF.

Until now, few studies have focused on the use of breast MRI for confirmation of the extent of disease in patients already found to have cancer through traditional imaging methods. Recommendations published earlier this year in the New England Journal of Medicine

touted the merits of annual breast MRI for screening women with a high lifetime risk of breast cancer because of family history or their genetic makeup, but did not advocate widespread use.

In the UF study, 21 patients underwent an MRI-guided biopsy after preoperative breast MRI revealed a suspicious area. About 40 percent of the biopsies revealed additional cancer. The MRI led to a change in treatment plan in 19 percent of the study sample. Overall, approximately three-fourths of patients underwent a partial mastectomy, also known as lumpectomy or breast-conserving surgery, while one-fourth ultimately had a total mastectomy, UF's chairman of surgery William G. Cance, M.D., reported Wednesday morning.

UF surgeons say high-quality preoperative breast MRI along with the capacity to perform MRI-guided biopsy could benefit many cancer patients because it detects cancers that otherwise would be missed, particularly women with dense breasts that are difficult to see on mammography or smaller lesions hard to pinpoint on ultrasound. Early diagnosis and treatment of other sites of breast cancer with MRI may reduce recurrence rates following treatment, said Grobmyer, who is affiliated with the UF Shands Cancer Center.

"MRI has been known for a while to be the most sensitive method to detect breast cancer," Grobmyer said. "Some concerns over the use of MRI in this context have been one, the cost, and two, the fact that MRI detects many 'abnormal' areas that upon further work-up turn out not to be cancer."

The cost of breast MRI can run 10 times that of mammography. That and subjecting women to the anxiety and discomfort of a biopsy for a tumor that turns out to be benign are among the reasons why using MRI has not been advised for everyone.

Still, if larger studies show that preoperative MRI reduces the need for second operations to obtain clean margins, some or all of the cost of the imaging could be offset by savings from avoiding more surgery, Grobmyer said. Costs may also be offset by reducing the future need for operations to manage breast cancer recurrences, which Grobmyer believes will be reduced by the use of preoperative MRI. Other research will have to answer whether by identifying cancerous areas earlier and changing the treatment plan, patients will have lower recurrence rates and improved cancer-related survival.

UF researchers said MRI might be especially useful for people considering partial breast radiation therapy. Patients undergoing lumpectomy typically receive whole-breast radiation, but more recently some practitioners have opted to only radiate a portion of the breast because when cancer recurs it typically does so in the scar from the original surgery, Grobmyer said.

“There is some suggestion that the recurrence rate in these patients is fairly low, but we’re worried this finding of breast cancer at other sites of disease is particularly important in patients considering partial radiotherapy,” he said. “Our study certainly raises questions — should you do MRI before you consider partial breast radiotherapy to make sure you don’t have disease in other sites of the breast?”

Source: University of Florida

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