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MRI Beats Mammograms at Spotting Early Breast Cancer

But it's still too expensive for more widespread use, experts say

By Steven Reinberg
HealthDay Reporter

FRIDAY, Aug. 10 (HealthDay News) -- MRI appears to be better than mammograms at finding breast cancer before it spreads, German researchers report.

However, despite the technology's advantages, its cost and a lack of people skilled at reading breast MRIs means it won't replace mammograms any time soon, experts say.

"MRI is more powerful and accurate for diagnosing pre-invasive breast cancer called ductal carcinoma in situ (DCIS)," concluded lead research Dr. Christiane Kuhl, from the Department of Radiology at the University of Bonn.

Her team published its findings in the Aug. 11 issue of *The Lancet*.

Most breast cancers arise from cells that build up in the inner lining of the milk duct, Kuhl explained. As long as this cancer is confined to the duct, it is considered benign and does not spread.

"If you identify breast cancer at this stage and remove it, the patient is healed -- always," she said. "Avoiding invasive breast cancer is even better than early diagnosis."

In the study, Kuhl and colleagues collected data on more than 7,300 women over five years. In addition to mammograms, the women were also given MRIs. The researchers wanted to see if MRIs could detect DCIS.

They found that among the 167 women who had a DCIS, 92 percent were found by MRI compared with 56 percent found by mammography.

Moreover, of the 89 women diagnosed with "high grade" DCIS -- the ones most likely to develop into cancer -- 98 percent were found by MRI, compared with 52 percent found by mammography. In addition, 48 percent were missed by mammography but found by MRI alone.

High-grade DCIS almost always becomes invasive and does so after a short time, Kuhl explained. "When it becomes invasive, it is biologically aggressive -- that means it kills," she said.

In contrast, low-grade DCIS usually remains within the duct and poses no threat. In fact, women can have low-grade DCIS for a lifetime with no ill effects, Kuhl said.

Also, MRI was not associated with many false positive findings. The positive predictive value of both methods was similar -- 55 percent for mammography and 59 percent for MRI, the researchers reported.

There's one big downside, however: MRI is very expensive compared with mammography. "Also, MRI is more difficult to read, and you have to use different criteria to diagnose DCIS than for invasive breast cancer," Kuhl said.

Since MRI is used less often than mammography "the number of radiologists who are experienced in interpreting breast MRIs is far smaller than the number of radiologists who are able to accurately interpret a mammogram," further limiting its use, the German researcher said.

And more studies that compare MRI with mammography are needed before MRI can be recommended as the best way to diagnose DCIS, she added. "This is the beginning of the death of mammography, but that is going to be a long death," Kuhl predicted.

One expert wasn't surprised by the findings.

"This study shows that MRI is definitely better than mammography for detecting DCIS," said Dr. Kristin Byrne, chief of breast imaging

at Lenox Hill Hospital in New York City. "We have known that MRI is better for detecting cancer, but there has been a debate whether MRI was best for detecting DCIS," she said.

The enhanced ability to find DCIS using MRI is due to better quality images and improved ability in reading the MRI, Byrne said. "We are now detecting much more DCIS than what is seen on the mammogram," she said.

The American Cancer Society does recommend that women who are at high risk for breast cancer get an MRI in addition to their yearly mammogram, Byrne noted.

Still, it will take a long time before breast MRI replaces mammograms, she said, for the reasons Kuhl laid out.

Another expert agreed that a larger study is needed before MRI can become the preferred breast cancer screening method.

"We don't know yet how much MRI screening will add and at what price this comes, economically and psychologically, [because of the] emotional burden due to increased absolute amount of unnecessary recalls," said Dutch radiologist Ritse M. Mann, of Radboud University Nijmegen Medical Centre in Nijmegen.

But Mann, the co-author of an accompanying journal editorial, said that "MRI can no longer be regarded as [just] an adjunct to mammography, even though this needs considerable funding."

"MRI screening will detect malignancies more often and earlier and will increase breast cancer survival. Therefore, it is time to start a large multicenter trial on MRI screening for breast cancer in the general population," Mann said.

More information

For more information on breast cancer, visit the [American Cancer Society](#).

SOURCES: Christiane Kuhl, M.D., department of radiology, University of Bonn, Germany; Kristin Byrne, M.D., chief, breast imaging, Lenox Hill Hospital, New York City; Ritse M. Mann, department of radiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; Aug. 11, 2007, *The Lancet*

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