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# Ultrasound plus mammography finds more cancers, but increases false positives

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Adding ultrasound to mammography finds more cancers than mammography alone, but also substantially increases the number of false positives, according to first-year results from a three-year study of the two tests.

“At this point, it’s not clear whether the benefit provided by ultrasound outweighs the additional expense, stress and inconvenience caused by the false positives,” said study co-author Etta Pisano, M.D., vice dean for academic affairs in the University of North Carolina at Chapel Hill School of Medicine, Kenan professor of radiology and biomedical engineering and director of the UNC Biomedical Research Imaging Center.

“We know that ultrasound does find more cancers. The question is, does it find enough more cancers to make it worthwhile?” she said.

The results were presented today (Sept. 28) at the American College of Radiology’s fall meeting in Washington, D.C.

The study’s principal investigator and lead author is Wendie A. Berg, M.D., Ph.D., of American Radiology Services, located at Johns Hopkins at Greenspring Station in Lutherville, Md. UNC Hospitals is one of the primary study sites, with an enrollment of 198 women (7.5 percent of the study participants).

In the study, 2,637 women at high risk for breast cancer received both

mammography and ultrasound exams. The tests were performed by physicians who received special training in breast ultrasound screening. Among the participants, 41 breast cancers were found in 40 women (one had cancer in both breasts) by one or both of the tests. Twelve of the cancers were found by ultrasound alone.

The addition of ultrasound resulted in 136 (5.2 percent) women having biopsies due to suspicion of cancer. Of these women, 14 or 8.5 percent were diagnosed with breast cancer.

Based on these results, the authors concluded that adding ultrasound to mammography will find approximately an additional one to seven cancers per 1,000 high-risk women who had not previously been screened by ultrasound, but will also substantially increase the number of false positives.

“We had hoped to see a bigger effect of ultrasound compared to mammography,” Pisano said. “But I think these results show it’s a mixed picture at this point.”

Pisano said that the study will add magnetic resonance imaging (MRI) exams in its third year, allowing researchers to directly compare the effectiveness of MRI, ultrasound and mammography.

“At that point we will have good data on the cost-effectiveness of MRI versus ultrasound on top of mammography,” she said. “That will be the definitive analysis.”

Source: University of North Carolina at Chapel Hill