年1回の乳房超音波検査は一部の女性においては有益である（Abstract# VB31-04）

ACRIN trial：超音波またはMRIを用いた年1回の乳房のスクリーニングは高濃度乳房の女性においては有益である

ACRIN trial: Annual screening with breast ultrasound or MRI could benefit women with dense breasts

2009年Radiological Society of North America学会（RSNA 2009）で発表された大規模臨床試験の結果、乳癌リスクの高い高濃度乳房の女性に対する年1回の超音波スクリーニングの有益性に関する初めての強力なエビデンスが示された。平均年齢55歳の乳癌リスクの高い女性612人がAmerican College of Radiology Imaging Network (ACRIN) 6666トライアルに参加した14施設から組み入れられた。女性らは基本的なスクリーニングのマンモグラフィーおよび超音波検査を施行され、12ヵ月および24ヵ月の経過観察後の検査と24ヵ月後の造影MRI検査を1回施行された。16人が乳癌と診断された。これらのうち12のがんは浸潤性であり4つは非浸潤性乳管癌であった。スタディ経過中に50%～56%のがんがマンモグラフィーで検出された。超音波検査を加えることにより70%～94%のがんが検出された。MRIを追加することにより最も早期のがんがさらに検出された。またこのスタディから、超音波またはMRIの補助的な検査をすることにより一部の女性にとっては不必要な生検につながる偽陽性率が低下することも明らかになった。

Full Text

Results of a large-scale clinical trial presented at the annual meeting of the Radiological Society of North America (RSNA) provide the first strong evidence of the benefit of annual screening ultrasound for women with dense breasts who are at elevated risk for breast cancer. In addition, the study confirmed that MRI is highly sensitive in depicting early breast cancer.

"We found that annual screening with ultrasound in addition to mammography significantly improves the detection of early breast cancer," said lead researcher Wendie A. Berg, M.D., Ph.D., breast imaging specialist at American Radiology Services, Johns Hopkins - Green Spring Station in Lutherville, Md., "and that significantly more early breast cancer can be found when MRI is performed, even after combined screening with both ultrasound and mammography. However, both ultrasound and MRI increase the risk of false-positive findings."

Women who are at high risk for breast cancer need to begin screening at a younger age, because they often develop cancer earlier than women at average risk. However, women below age 50 are more likely to have dense breast tissue, which can limit the effectiveness of mammography as a screening tool.

Multicenter trials have shown that MRI enables radiologists to accurately identify tumors missed by mammography and ultrasound. The American Cancer Society recommends that some groups of women with a high risk of developing breast cancer should be screened with MRI in addition to their yearly mammogram beginning at age 30. However, MRI is not for everyone.

"Because MRI is a very expensive test and requires intravenous contrast, it is something we only recommend for screening the approximately 2 percent of women who are known or likely carriers of BRCA1 or BRCA2 gene mutations or have other unusual circumstances that put them at very high risk for breast cancer," Dr. Berg said.

"There are another 10 to 15 percent of women who are at some increased risk because of personal history of breast cancer, family history of breast cancer and/or dense tissue," she added. "For many of these women, MRI is not currently justified, but annual ultrasound would be appropriate in addition to mammography."

The researchers studied 612 women, mean age 55 years, at elevated risk of breast cancer enrolled at 14 sites in the American College of Radiology Imaging Network (ACRIN) 6666 trial funded by the Avon Foundation and the National Cancer Institute. Women underwent baseline screening mammography and ultrasound with follow-up exams at 12 and 24 months and then a single, contrast-enhanced MRI at 24 months.

Sixteen women were diagnosed with breast cancer. Twelve of the cancers were invasive, and four were ductal carcinoma in situ (DCIS). Over the course of the study, 50 to 56 percent of cancers were shown on mammography. Adding ultrasound allowed detection of 70 to 94 percent of cancers. Adding MRI allowed for detection of additional cancers at their earliest stage.

The study also found that supplemental screening with ultrasound or MRI significantly increased the risk of false-positive findings, leading to unnecessary biopsies in some women.

"It is important that women are advised of the increased potential of undergoing an unnecessary biopsy as a result of screening with ultrasound or MRI," Dr. Berg said, but we hope this study motivates women and their doctors to learn more about their risk factors and to consider supplemental screening in addition to mammography where indicated."

Coauthors are Zheng Zhang, Ph.D., Jean B. Cormack, Ph.D., Roberta A. Jong, M.D., Richard G. Barr, M.D., Ph.D., Daniel E. Lehrer, M.D., and other ACRIN 6666 investigators.

TOPICS