

# MRI Finds Breast Cancer in High-Risk Women

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CHICAGO — Magnetic resonance imaging detects more breast cancers in high-risk women, compared with mammography or ultrasound, according to two studies presented at the annual meeting of the Radiological Society of North America.

MRI was more sensitive but less specific in the detection of breast cancer than was mammography or ultrasound, data from the Austrian Screening Trial show. However, the lesser specificity of MRI was partially caused by a higher detection rate for atypical ductal hyperplasias, which are considered to be direct precursors of invasive ductal cancer, said Dr. Christopher Riedl of the Medical University of Vienna.

In the second study, screening MRI was associated with a higher biopsy rate, but was the only modality that detected all

**Of 28 cancers, MRI detected 24, mammography 14, and ultrasound 12. Sensitivity for MRI was 86%, mammography 50%, and ultrasound 43%.**

cancers identified in the study, conducted by the International Breast MRI Consortium and the Cancer Genetics Network. Findings of the prospective multicenter trial support single-site studies that show MRI has greater sensitivity and cancer yield than any other screening modality in high-risk populations, said Dr. Constance Lehman of the University of Washington in Seattle.

Dr. Lehman and associates performed screening mammography, MRI, and ultrasound within 90 days of each other in 171 asymptomatic women aged 25 years or older who had a known breast cancer susceptibility gene (BRCA) mutation or who were at a 20% or greater lifetime risk of breast cancer.

Sixteen biopsies were performed and six cancers were detected for an overall 3.5% diagnostic yield.

MRI detected all six cancers, while mammography detected two, and ultrasound detected one. The diagnostic yields for each test were: MRI 3.5%, mammography 1.2%, and ultrasound 0.6%, the investigators reported.

MRI resulted in the highest rate of biopsies being performed (8.2% of women) compared with mammography (2.3%) and ultrasound (2.3%), she said.

Nine biopsies were performed on women whose only positive exam was an MRI. Cancer was diagnosed in four of those women, meaning that the risk of a benign biopsy based on an MRI-only positive exam was 2.9% (five of nine biopsies).

Another way to interpret this finding is that, "if we screened a thousand high-risk women, adding MRI to mammography would add 29 additional benign biopsies with 30 additional invasive cancers predicted to be detected," Dr. Lehman said.

The Austrian Screening Trial evaluated 327 women with a BRCA mutation or

strong family history for breast cancer using annual MRI, mammography, and ultrasound screening between days 8 and 12 of their menstrual cycle to decrease false-positive rates due to hormonal influences. The women, aged 22-80 years (mean 41 years), underwent a total of 672 complete imaging rounds.

A total of 28 cancers were found, of which 39% were ductal carcinoma in situ (DCIS) and 61% were invasive cancers, Dr. Riedl and colleagues reported.

Of the 28 cancers, MRI detected 24, mammography 14, and ultrasound 12. Sensitivity was significantly higher for MRI (86%) than for mammography (50%) or ultrasound (43%). Almost one-half of the cancers (43%) were detected only by MRI.

Of the 11 DCIS cases, MRI detected 10, mammography 5, and ultrasound 4. Five of the DCIS lesions were detected by MRI only.

MRI, mammography, and ultrasound

led to 101, 25, and 26 false-positive findings, respectively, resulting in a significantly worse specificity for MRI (81%) than mammography (64%) or ultrasound (68%).

Of the total 108 false-positive findings, 39 were diagnosed as atypical ductal hyperplasia. Significantly more cases were detected by MRI (36) than by mammography (10) or ultrasound (4).

Twenty-five of the cases were found by MRI only. ■



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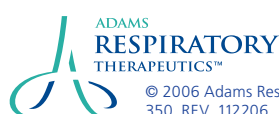
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