

New MR technique may help save women from unnecessary breast biopsies

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A new MR procedure that uses diffusion-weighted imaging (DWI) to determine whether or not a breast lesion is malignant or benign may help reduce unnecessary breast biopsies, according to a study performed at the National Institute of Health in Bethesda, MD. DWI is a method that produces images detecting the exchange of water molecules between tissue compartments (diffusion).

The study included 80 patients with 85 lesions. Quantitative analysis of DWI was used to determine whether or not a lesion was benign or malignant. "Using diffusion-weighted imaging can reflect the cellular density of a lesion without using contrast," said Riham El-Khouli, MD, lead author of the study. "The quantitative analysis of DWI correctly identified that 50 of 60 lesions as malignant. At the same time, it correctly identified that 23 of 25 of the lesions were benign. Lesions with higher cellular density are more likely to be malignant," she said.

"MR imaging of the breast is very common. It is typically used for screening patients with an increased risk of developing breast cancer (patients with a personal or family history of breast or ovarian cancer and patients with certain [genetic mutations](#)). It is also used for some patients who have been recently diagnosed with [breast cancer](#) or for patients with complex mammograms," said Dr. El-Khouli.

This new MR method that uses diffusion-weighted imaging only adds to the benefits of using MR for breast imaging by improving the ability of MRI to characterize benign from malignant lesions. Hopefully, this

procedure will help save women from unnecessary breast biopsies by decreasing the false-positive rates of MRI," said Dr. El-Khouli.

Source: American Roentgen Ray Society

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