

# Magnetic resonance imaging improves breast cancer diagnosis

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Women who have been diagnosed with breast cancer in one breast have a higher risk of contracting the disease in their opposite breast as well. A thorough examination of the opposite breast using mammography and ultrasound is therefore common practice. However, many tumours still remain undetected when using mammography. Magnetic resonance imaging (MRI) promises better results, as is shown in an inter-national study involving the University of Bonn.

In almost 1,000 women with a recent diagnosis of breast cancer in one breast, MRI helped identify 30 cancers in the seemingly normal opposite breast . In women with a normal (negative) MRI of the opposite breast, there was a 99.6% confidence that in fact no breast cancer was present -- which means that if the MRI study is normal, preventive mastectomy of the opposite breast, which some women want, is definitely unnecessary . These findings have now been published in the prestigious journal *New England Journal of Medicine*.

About two dozen sites in North America participated in the study, as well as one sole site outside the USA, the University of Bonn. Bonn was selected as a team member due to its internationally leading position in breast cancer diagnostics. A total of 968 patients were examined, almost 200 of them at the University of Bonn alone. "Therefore, proportionally, most patients came from our Department, which means that the data from Bonn had a substantial impact on the results of the entire study," explains Professor Christiane Kuhl from the Department of Radiology of the University of Bonn. All the women had previously been diagnosed

with tumours in one breast.

A mammography as well as a clinical examination of the opposite breast had remained normal and without evidence of breast cancer . The patients then underwent breast MRI .Using MRI, the doctors found tumours in the other breast in as many as 30 women, yielding a contralateral cancer yield of over 3% - which is a high rate given the fact that regular breast cancer screening yields a detection rate of around 1 per million.. "It is already well established that an MRI is essential before breast cancer surgery in order to delineate the extent of the disease and provide a road map for the surgeon. Now we know that it is also important for discovering further tumours in the opposite breast which was presumed to be healthy," Professor Kuhl says.

What is particularly reassuring for women with a recent diagnosis of breast cancer is that if the doctors did not discover a tumour on MRI, there was a 99.6% certainty that the breast indeed was free of cancer. "A prophylactic mastectomy of the opposite breast, which some patients want, is definitely unnecessary if an MRI shows no evidence of cancer," she emphasises.

Although the MRT is comparatively expensive, "it is definitely the most reliable method that is currently available for diagnosing breast cancer. Breast MRI should be considered the standard of care for screening women who carry an increased risk of breast cancer -- be it due to a strong family history, or, as our results show, due to a recent diagnosis of supposedly unilateral breast cancer," she says. "And women themselves should be aware of this."

Source: University of Bonn

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