

**THE ROLE OF CONTRAST-ENHANCED
BREAST MRI IN THE DIAGNOSIS OF
BREAST LESIONS**

By

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THESIS

**Submitted in partial fulfillment of the requirements in the MD
degree of
Radiodiagnosis**

**Department of Radiodiagnosis
Faculty of Medicine
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Summary

Breast cancer is the most common malignant tumor among women. The purpose of all diagnostic modalities in breast cancer is early detection and proper diagnosis, which has its major impact on further management and prognosis.

The sensitivity of breast MRI for the detection of cancer is the greatest of all imaging techniques and when the findings of conventional imaging are inconclusive (i.e. BI-RADS 0), MRI can be used as a problem-solving modality, it is also better at identifying the true extent of cancer when multifocal disease or ductal carcinoma in situ is present. However its reported specificity is variable.

The current study evaluated how to categorize breast lesions detected at contrast-enhanced breast MRI in accordance with the imaging findings and the indication for MRI.

We conducted the study at Fayoum University and Kasr El Aini Hospitals with cases referred from the Oncology and General Surgery Departments to the Radiology Departments including 50 patients with 50 breast lesions.

All patients underwent DCE-MRI. Morphological features and dynamic parameters were recorded and analyzed according to the latest recommended ACR BI-RADS lexicon (2013). The findings of each modality were correlated with histopathological results.

BIRADS categories 2 and 3 were considered as benign lesions and BIRADS categories 4 and 5 were considered as malignant. There were 17 benign lesions (34 %) and 33 malignant lesions (66 %).

In the present study, the sensitivity, specificity, positive and negative predictive values of MRI for diagnosis of malignant breast lesions were found to be 100 %, 70.6 %, 86.8 %, and 100 % respectively. Overall accuracy of MRI breast was 90%.