Iran J Radiol. 2017 May; Special iss(5):e47964. doi: 10.5812/iranjradiol.47964.

Published online 2017 April 13.

Abstract

The Importance of Diffusion Weighted Imaging in Breast MRI

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Received 2016 December 21; **Accepted** 2017 February 08.

Abstract

Objectives: The aim of this study was to evaluate the value of diffusion weighted imaging in Diffusion weighted imaging in distinguishing between in benign and malignant breast lesion

Methods: There were 37 female patients with 47 lesions. Sixty seven female subjectd (40 mean age) ,age ranges 17-69 , with histopathologically proven breast lesions underwent DWI of breasts with a single shot echo planar imaging (EPI)sequence .the computed mean apparent diffusion cofficients (ADCs) of the breasts lesion and cell density were then correlated.

Results: The ADC varied substantially between benign breast lesions ((1.52 $\pm$ 0.26) $\times$ 10 -3 mm2 / second). And malignant breast lesions ((0.94 $\pm$ 0.21) $\times$ 10 -3 mm2 / second) .The AUC with ROC analysis was 0.896 and the threshold for ADC was 1.17 $\times$10-3 mm2 /second with a sensitivity and specificity of 90% and 85%, respectively. The mean ADC of malignant breast lesions was statistically lower for benign lesions (P value less than 0.01)

Conclusions: The ADC would be a effective parameter in distinguishing between malignant and benign breast lesions.

This is an abstract presented in the 33rd Iranian congress of radiology (ICR) and the 15th congress of Iranian radiographic science association (IRSA)