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Apparent diffusion coefficient value In evaluating types, stages and histologic grading of cancer cervix

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Purpose: The purpose of this study is to evaluate the usefulness of apparent diffusion coefficient (ADC value) in differentiating between probably benign breast lesions and, suspicious lesions (ACR-BIRADS categories 3 and 4 respectively).

Patients & Methods: Breast lesions meeting study criteria were identified on dynamic contrast enhanced (DCE)-MRI examinations in 48 women over the course of the study period for 2 years. We found 27(56.2%) of the cases probably benign as their BIRADS category 3 and the remaining 21(43.7%) cases were category 4. Images were obtained with diffusion sensitizing gradients of 0 and 750mm²/s. The apparent diffusion coefficient (ADC) was calculated and correlated with the histological data.

Results: The ADC values recorded a sensitivity of 97.9% and a specificity of 80%. The positive predictive value was 95.7% in differentiation between the probably benign and suspicious breast lesions. The difference in mean ADC for probably benign breast lesions (BIRADS-3, $1.45 \pm 0.46 \times 10^{-3}$ mm²/s), and suspicious lesions (BIRADS-4, $1.06 \pm 0.56 \times 10^{-3}$ mm²/s) was statistically significant.

Conclusion: Including the ADC diffusion coefficient in the diagnostic work up of patients with indeterminate breast lesions can help in the differentiation between benign and malignant breast lesions.

Biography

Doaa Ibrahim Hasan is currently working as Lecturer of radio diagnosis at Department of Radiology, Faculty of medicine, Zagzig University, Egypt.

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