



Role of MRI Diffusion Weighted Imaging in the Diagnosis of Malignant Uterine Tumors

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Abstract:

MRI has a pivotal and established role in detection and staging of gynecological malignancy. Diffusion-Weighted Imaging (DWI) can demonstrate abnormal signals emitted by pathological foci based on differences in molecular diffusion. It also permits the quantitative evaluation of the Apparent Diffusion Coefficient (ADC) that may be useful for distinguishing between malignant and benign tissues and for monitoring therapeutic outcomes. On this basis, the aim of this study was to assess the added value of DWI and ADC values in the evaluation of gynecological malignancy. Materials and methods: Twenty patients with suspected gynecological pathology are examined by MRI. Site of origin of the lesion (corporeal or cervical), zonal distribution, lesion size, lesion shape and signal characteristics were determined. The bladder, rectum, pelvic side wall muscles and lymph nodes were evaluated for each study. Descriptive statistical values such as sensitivity, specificity and positive and negative predictive values were measured for each MR imaging findings. Results: MR stage was comparable to operative stage in all cases. The sensitivity and specificity of DWI in detection of abnormal endometrium was 100%. DWI and ADC maps allow differentiation of benign from malignant zones of cervix with sensitivity and specificity 100%. Sensitivity of the ADC in assessment of regional nodal spread was 100% with specificity 67%. Conclusion: Conventional MRI findings in conjunction DWI and quantitative measurement of the apparent Diffusion Coefficient (ADC) are effective method in the diagnosis and staging of gynecological cancer.

Keywords:

Uterine- DWI- ADC value

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