ABSTRACT

Variation of B Value with ADC Mapping Technique Using Diffusion Weighted Imaging Sequence in Differentiating Malignant and Benign Musculoskeletal Tumors

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Diffusion Weighted Imaging (DWI) is functional magnetic resonance imaging technique based on changes in the Brownian motion of water molecules caused by tissue microstructure. Moreover, DWI is a noninvasive method for investigation of tumor histological content. DWI produce ADC (apparent diffusion coefficient) value when post processing and the ADC is a quantitative measure of Brownian movement and the result of ADC value affected by b value parameter.

The aim of the present study to compare the diagnostic performance of DWI using b value of 800 s/mm\textsuperscript{2} and 1000 s/mm\textsuperscript{2} at 1.5 T for the evaluation of clinically musculoskeletal tumors using ADC mapping as a quantitative assessment tool. DWI was performed on 15 patient soft tissue tumors and using two b value of 800 s/mm\textsuperscript{2} and 1000 s/mm\textsuperscript{2} and the best b value to differentiating malignant and benign musculoskeletal tumors is using b value of 800 s/mm\textsuperscript{2}.

Key words: Diffusion Weighted Imaging, ADC Mapping, Musculoskeletal Tumors

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