The Comparison of Diagnostic Accuracy of MRI In Patients Suspected with Meniscus Tear Contrasted to Findings of Arthroscopy

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ABSTRACT

Background and objectives: Despite widespread use of Magnetic Resonance imaging (MRI) in clinical practice, a systematic evaluation of the diagnostic accuracy with which it does, so far has not been carried out. In this context we sought to compare the outcomes of MRI and arthoscopic examination for better understanding something important about this new technique.

Methods: Current study enrolled 65 Iraqi patients with clinical features of meniscal tears. The findings of arthroscopy in those patients were compared to that of MRI and the degree of accuracy of MRI was calculated using sensitivity and specificity statistical formulas.

Results: Comparison of results of MRI to that of arthroscopy revealed the following: the agreement about positive cases (true positive) was identified in 50 cases and the agreement about negative cases (true negative) was identified in 7 cases MRI failed in detecting 3 cases (false negative) and falsely diagnosed 5 cases (false positive). Comparison of accuracy levels and agreement between MRI and arthroscopy is shown in table 4. Kappa level of agreement value was 0.56 indicating moderate agreement between MRI and arthroscopy findings. The sensitivity level was 94.3%, the specificity level was 58.3%, the positive predictive value (PPV) was 90.9% and the negative predictive value was 70.0% and total accuracy level was 87.7%.

Conclusion: The concordance rate between MRI and arthroscopy is great with respect to diagnosis of meniscal tear; however, detailed evaluation of extent and severity of lesions requires arthroscopic examination.

Keywords: Meniscus injury, Magnetic resonance imaging, Arthroscopy.

Bahrain Med Bull 2024; 46 (4): 2533-2536

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