

Paper #123

3-Tesla Resonance Efficiency in the Study of Coxofemoral Chondral Lesions in Patients with Femoroacetabular Impingement

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Summary:

3TMRI is a useful method in the diagnostic of coxofemoral chondral lesions, with an acceptable correlation with arthroscopic findings for acetabular chondral damage, and a moderate correlation for chondral femoral damage.

Abstract:

Introduction

Magnetic resonance imaging (MRI) is the imaging of choice in the study of femoroacetabular impingement and articular damage. However, the identification of chondral lesions is still challenging, with heterogeneous values of sensitivity and specificity described in the literature for this diagnostic method. The 3 Tesla Magnetic resonance (3TMRI) is a higher quality imaging method, which could improve the diagnostic process of coxofemoral chondral lesions.

Objective

To evaluate the correlation between imaging findings in 3TMRI and the subsequent direct observation under arthroscopy, in the hips of patients undergoing femoroacetabular impingement surgery, and to calculate the sensitivity and specificity of the 3TMRI for the identification of chondral lesions.

Materials And Methods

A retrospective review of patients with diagnosis of femoroacetabular impingement studied with 3TMRI between December 2017 and July 2018 was performed. The acetabular and femoral cartilage findings described in the 3TMRI report of each patient were recorded. The surgical notes were reviewed using the same criteria. Subsequently, the imaging description was compared with the arthroscopic observation. The sensitivity and specificity of the 3TMRI was calculated for each lesion. Cohen's Kappa coefficient was used to evaluate the correlation between imaging and arthroscopic findings.

Results

The data of 100 hips were analyzed. The sensitivity and specificity of the 3TMRI for acetabular chondral lesions was 86 and 40.9% respectively, and for femoral chondral lesions was 51.2 and 77.42%. The statistical analysis of correlation between 3TMRI and arthroscopy showed a Kappa of 0.39 for acetabular chondral damage, and 0.45 for chondral femoral damage.

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Conclusions

3TMRI is a useful method in the diagnostic of coxofemoral chondral lesions, with an acceptable correlation with arthroscopic findings for acetabular chondral damage, and a moderate correlation for chondral femoral damage.