

Paper #110

Impact of Femoroacetabular Impingement Bony Abnormalities on Severity of Labral Injury

Guillaume D. Dumont, MD, UNITED STATES

Thomas Ergen, MD, UNITED STATES

Matthew Pacana, MD, UNITED STATES

Adam Money, MD, UNITED STATES

Allen Barnes, BS, UNITED STATES

University of South Carolina School of Medicine

Columbia, SC, UNITED STATES

Summary:

Evaluation of the impact of femoroacetabular impingement radiographic measurements on the severity of labral tears.

Abstract:

Introduction

Femoroacetabular impingement (FAI) is a common cause of hip pain that results from abnormal conflict between the acetabulum and femoral head/neck, and often is associated with acetabular labral tears. Radiographic findings and measurements are helpful in diagnosing FAI. The goal of this study was to evaluate the relationship between preoperative radiographic parameters (lateral center edge angle (LCEA), alpha angle, cross over sign) and the size of labral tear noted intra-operatively.

Methods

A retrospective analysis of a single surgeon's case series was performed to identify patients who underwent primary hip arthroscopy for FAI. Preoperative radiographs were reviewed to document LCEA, alpha angle, and cross over sign. Operative records were reviewed and the size of labral tears based on the acetabular clock face was noted. The presence of associated acetabular chondral damage was also recorded. Spearman's Rank correlation rho, simple/multilinear regression analysis, and Wilcoxon Rank-sum were used for analysis of the data.

Results

183 patients were included in the study. Increase in LCEA and alpha angle were associated with an increase in labral tear size using spearman's rank correlation rho. With multilinear regression analysis to evaluate LCEA and alpha angle, there was a statistically significant correlation with LCEA and alpha angle, with an adjusted R-squared of 0.216. There was no correlation between presence of crossover sign and labral tear size.

Conclusion

Our findings suggest that more severe bony structural abnormalities of FAI are associated with larger labral tear size. Acetabular depth and larger cam morphology may account for approximately 21.6% of the size of labral tear. Our findings support a growing body of knowledge regarding chondrolabral injury associated with FAI.