Paper #49

Predictors of Failure After Surgical Treatment of FAI: Results of a Multicenter Prospective Cohort

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Introduction: Treatment of femoroacetabular impingement (FAI) attempts to improve symptoms through repair of intra-articular labrochondral pathology and correction of bony deformity. Nevertheless, a subgroup of patients does not respond favorably to surgery. The purpose of the current study was to determine independent predictors of failure after surgical treatment of femoroacetabular impingement in a large prospective multicenter cohort study.

Methods: A prospective cohort study of the surgical treatment of FAI was performed. A total of 760 hips undergoing primary treatment of FAI were enrolled across seven surgeons. Patient characteristics, baseline PROs, imaging findings, intraoperative pathology, and surgical treatments were recorded. A total of 621 hips (81.6%) with minimum one-year follow-up were included (mean 4.3 years). The mHHS was assessed relative to the minimally clinically important difference (MCID, 8 points) and patient acceptable symptom state (PASS, 74 points). Univariate analyses were performed to identify factors significantly associated with failure. Multivariate logistic regression was performed to identify independent predictors of failure.

Results: A total of 621 hips undergoing surgery for FAI were followed a mean 4.2 years. This cohort had a mean age of 29.8 years and included 57% females. Multivariate logistic regression identified independent predictors of each failure definition. Failure A (THA) was independently associated with increasing age, acetabular microfracture (both $p<0.001$), and femoral head chondroplasty ($p=0.02$). Failure B (THA or revision surgery) was independently associated only with lower preoperative mHHS ($p<0.001$) ($p=0.01$). A lower failure C (clinical failure) was independently associated with participation in competitive athletics ($p=0.01$), BMI ($p<0.001$), and male gender ($p<0.001$).

Conclusions: This large multicenter cohort demonstrates the outcomes of FAI treatment at a mean of 4.3 years postoperative. Rates of THA and revision surgery were 4.0% and 6.9%. An additional 14.8% of patients demonstrated clinical failure based on patient-reported outcomes.

Notes