

Arthroscopic treatment of acetabular protrusion: what are the clinical outcomes compared to non-protrusion acetabular over-coverage?

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INTRODUCTION: Acetabular protrusion (AP) is a well-known entity and can be a significant source of disability. AP can lead to significant pain, labral pathologies, and morbidity. Although typically not an indication for hip arthroscopy, patients with AP can significantly improve their quality of life and prolong the necessity for total hip arthroplasty. The purpose of this study is to evaluate minimum 2-year follow-up after hip arthroscopy of patients with acetabular protrusion.

METHODS: Patients with AP who underwent primary hip arthroscopy performed by the senior author (M.J.P.) between August 2006 and 2012 were included. Exclusion criteria was prior surgery or retroversion of the ipsilateral hip or history of pediatric hip pathology (Borderline hip dysplasia, LeggCalve-Perthes, etc). A 3:1 control cohort was selected from a pool of non-protrusion hips with overcoverage (Lateral center-edge angle <40) and no acetabular retroversion. Matching on patient age, sex, and minimum joint space was performed using a nearest-neighbor algorithm. Earliest available minimum 2-year patient reported outcomes (PROs) were used for analysis.

RESULTS: In total, 11 patients (11 hips) (80% female, median age 36) diagnosed with AP met inclusion criteria and were matched with 33 patients (33 hips) (81% female, median age 44) in the control group. Follow-up was obtained for 10/11 (91%) patients in the AP group with median follow-up of 2.5 years and 27/33 (82%) patients in the control group with median follow-up of 2.4 years. One THA conversion was identified in the AP group and 6 THA conversions were identified in the control group. Subjective PRO analysis was performed for the remaining hips. Median post-operative HOS-ADL (92 vs 92, p=.59), HOSSport (69 vs 86, p=.16), mHHS (81 vs 89, p=.49), WOMAC (13 vs 5, p=.55), SF-12 PCS (58 vs 57, p=.98), SF12 MCS (58 vs 59, p=.14), Tegner (3 vs 5, p=.08), and patient satisfaction (9 vs 9, p=.81) were similar between the AP and control group, respectively. There was no significant difference between MCID or PASS rates for HOS-ADL, HOS-Sport, or mHHS between groups (p>.05 for all).

DISCUSSION: At 2-year follow-up, patients with AP demonstrated similar clinical outcomes and failure rates as patients with non-protrusion over-coverage after hip arthroscopy. Short term results appear to be promising, however more studies are required to determine the long-term efficacy of this procedure in this specific patient population.

SIGNIFICANCE/ CLINICAL RELEVANCE: Hip arthroscopy appears to be a successful treatment option when THA is not desired in active or young patients with hip AP.