Patient-Reported Outcomes and Survivorship at Minimum Ten-Year Follow Up in Patients with Borderline Dysplasia following Primary Hip Arthroscopy with a Comparison Subanalysis to a Benchmark Propensity-Matched Control Group without Borderline Dysplasia

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INTRODUCTION: The purpose of this study is 1) to report minimum 10-year patient-reported outcome scores (PROs) in borderline dysplastic patients who underwent hip arthroscopy, and 2) to compare these PROs to a propensity-matched control group with normal acetabular coverage.

METHODS: Data were prospectively collected and retrospectively reviewed on all patients who underwent arthroscopic hip surgery during the study period between April 2008 and March 2011. Patients were deemed eligible for analysis if they were diagnosed with borderline acetabular dysplasia, defined as a lateral center-edge angle (LCEA) between 18° - 25°. Patients were included in the present study if they had preoperative baseline and minimum 10-year follow-up scores for the following PROs, modified Harris Hip Score (mHHS), Nonarthritic Hip Score (NAHS), and Visual Analog Scale (VAS) for pain. Patients were excluded if they had any prior ipsilateral hip surgery, workers’ compensation, Tönnis osteoarthritis Grade > 1, a previous hip condition such as fracture, LCEA < 18°, avascular necrosis, or Legg-Calvé-Perthes disease, or were unwilling to participate in the study.

RESULTS:
Sixty-five hips (80.2%) had a minimum 10-year follow up. Within this population, there were 40 females (62.5%) and 24 males (37.5%), the mean age was 38.4 years, and the mean BMI was 25.5. The survivorship rate (the rate of patients who did not undergo a second hip surgery) of the study group was 64.1%, with seven patients undergoing a revision hip arthroscopy and 16 patients converting to total hip arthroplasty during the study period. All patients experienced significant improvement for all PROMs and VAS for pain from the preoperative to the minimum 10-year timepoint (P < 0.001). The study group was successfully propensity-matched in a 1:2 ratio to 125 hips without borderline acetabular dysplasia that underwent hip arthroscopy during the study period. Groups reported similar improvement for outcome measures, mHHS (P = 0.193), HOS-SSS (P = 0.336), and VAS for pain (P = 0.075), with the exception of NAHS (P = 0.033). Patient satisfaction was also comparable between the groups (P = 0.268).

DISCUSSION AND CONCLUSION: Following primary hip surgery, patients with borderline dysplasia demonstrated favorable PROMs at a minimum 10-year follow up with survivorship of 64.1%. Further, in the patients that did not fail, PROMs improvement was comparable to a propensity-matched control group without borderline dysplasia with the exception of the NAHS.