Concomitant Intraarticular Intervention with Periacetabular Osteotomy: A Systematic Review

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INTRODUCTION: The reduced acetabular coverage of the femoral head in developmental dysplasia of the hip has biomechanically been associated with overloading of the rim cartilage and labrum, that can progressively lead to damage of these structures, causing symptoms in patients. Periacetabular osteotomies (PAO) are well-documented surgical procedures to correct these bony deformities, though the benefit of concomitant soft tissues arthroscopic procedures at the time of a PAO are still undecided. This review aims to evaluate clinical, radiographical and patient reported outcomes to determine if these populations have better outcomes than PAO alone.

METHODS: This systematic review following the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines to identify English studies that reported upon patient populations that had PAO's performed with arthroscopy at the time of surgery for correcting developmental hip dysplasia. From a total of 428 articles retrieved after the initial database search, 13 articles were met the criteria for data extraction.

RESULTS SECTION: Between 2011 to 2022, 1030 hips from the selected articles underwent a combined PAO and arthroscopic procedure, with a mean follow-up of 3.9 years. Of the studies that reported it, 58% of the evaluated population were found to have labral tears that required either labral repair (45%), combined or isolated labral debridement (15%). Multiple different patients reported outcomes measures were identified in the literature, with minimal to no standardized reporting system used between articles. All articles reported statistically improved patient reported outcomes from a combined PAO and arthroscopy procedure. No statistically significant complications were appreciated with the combined surgery.

DISCUSSION Combined PAO and arthroscopic procedures for developmental dysplasia of the hip addresses the correction of both the bony and soft tissue pathology that perpetuates the progressive symptoms that patients experience. Patient reported outcomes scores improve significantly after such combined procedure and have low complication rates.

SIGNIFICANCE/CLINICAL RELEVANCE: This systematic review help define the outcome of a PAO alone versus a PAO with an arthroscopy, to improve treatment approach for patients with hip dysplasia.

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