Intra-Articular Osteoid Osteoma of the Hip: A Unique Source of Impingement

Andrea M. Spiker, MD
Ben-zion Rotter, BS
Douglas N. Mintz, MD
Bryan T. Kelly, MD
• Andrea M. Spiker, MD
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• Ben-zion Rotter, BS
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• Douglas N. Mintz, MD
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• Bryan T. Kelly, MD
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INTRODUCTION
- Femoracetabular impingement (FAI) is caused by abnormal contact of the acetabular rim and proximal femoral neck during hip range of motion, which leads to chondral and labral damage and subsequent pain. Its natural history when left untreated results in osteoarthritis of the hip.
- We now believe that the cause of FAI is developmental (repetitive stresses placed across the hip joint during early adolescence),16 raised subclinical pediatric hip disease (such as slipped capital femoral epiphysis),17 or due to genetic predisposition.18
- Intra-articular osteoid osteoma (IAOO) of the hip has been described in a number of case reports and case series, and is perhaps another cause of FAI or confounding factor in FAI.

Osteoid osteoma (OO) is a benign tumor lesion of the bone characteristically seen on computed tomography (CT) as a central osseous nidus surrounded by a lytic area and encompassed in dense sclerotic bone.15

OO represents 10% of all benign bone tumors, and approximately 20% of OO lesions are in the proximal femur.5-12 of all OO lesions are intra-articular throughout the body, and of the intra-articular lesions, 13% are located in the hip joint.10

OO typically presents with night pain, and pain is relieved with oral aspirin or NSAIDs.

Intra-articular OOs have been reported to have atypical presentations and variable responses to NSAIDs.

For treatment of hip IAOO has been described in the literature to include non-operative management, open excision, radiofrequency ablation (RFA) or hip arthroscopy, though only case reports and small case series have been reported.

METHODS
- We retrospectively identified all patients seen by our hip preservation group who were diagnosed with intra-articular osteoid osteoma (IAOO) of the hip. Only patients with confirmatory radiographic CT or MRI and/or biopsy diagnoses of IAOO of the hip were included.
- For patients undergoing hip arthroscopy, paired t-tests were used to compare the latest postoperative scores at 6 months or greater to pre-operative scores.
- We identified a comparison group of patients undergoing hip arthroscopy for isolated FAI for demographic and baseline outcome score comparison in a matched case-control design.

RESULTS
- We identified 40 patients with confirmed IAOO of the hip. 29 lesions were in the femoral neck, 10 in the acetabulum and 1 in the femoral head.

Alfred hip pain
10.0 (8.1-14.5) 55.0 (13.7-98.1)
Least improved
1.4 (0.7-3.0) 2.2 (1.7-5.2)
Pain relief with NSAIDs
4 (2-6) 3 (2-5)
Prevalence of Night Pain
68.0 ± 18.0
Pain Relief with NSAIDs
15.0 ± 15.0

CONCLUSIONS
- This is the largest case series of intra-articular osteoid osteoma (IAOO) of the hip reported to date.
- IAOO of the hip can present almost identically to femoracetabular impingement (FAI). In our series, the most common presenting symptom was groin pain, which is also the most common presenting symptom of FAI. The average alpha angle in our hip IAOO patients was 64.6°, which is consistent with cam-type FAI (alpha angle > 55°).
- Previous case reports and case series have noted that intra-articular osteoid osteoma lesions do not have the classic symptoms of night pain and pain relief with NSAIDs. However, our series demonstrated that 37% of patients reported right pain, and 57% of patients had pain relief with NSAIDs.
- Treatment of IAOO with hip arthroscopy results in significant improvements in patient reported outcomes.
- IAOO of the hip should be kept in the differential diagnosis of patients presenting with groin and hip pain.

REFERENCES

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REFERENCES


