Groin Pain in a Young Man

A 26-year-old man presented with groin pain and a positive impingement sign. Anteroposterior (A) and frog-leg lateral (B) radiographs and axial fat-saturated oblique (C) and short T1 inversion recovery coronal (D) magnetic resonance images are provided. What would you do?

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Dean K. Matsuda, MD:
This patient has a symptomatic left anterior cam femoroacetabular impingement (FAI) with coexistent borderline dysplasia and no significant radiographic osteoarthritis. The fibrocyst seen on the magnetic resonance image is at the region of expected flexion-induced abutment.
Assuming that this patient has failed a focused course of conservative treatment, I would recommend arthroscopic surgery addressing any chondrolabral damage and causative skeletal pathoanatomy. Cam FAI often coexists with dysplasia. If the patient had moderate to severe dysplasia, a periacetabular osteotomy should be considered. Moreover, dysplastic acetabulae may exhibit a radiographic crossover sign (this patient exhibits a small cephalad one), which might be interpreted as pathologic anterosuperior focal overcov-
Arthroscopic cam decompression would be done via incremental femoroplasty with intermittent dynamic arthroscopic testing to detect even subtle residual impingement through various arcs of hip motion. We are learning that cam FAI may occur beyond the classically described anterolateral quadrant of the femoral head–neck junction.\(^5\) If anterolateral femoroplasty yields insufficient cam decompression (tested with intraoperative anterior impingement testing), I would decompress the “critical corner” with anteromedial femoroplasty.

Finally, I typically perform arthroscopic capsular repair of the capsulotomy in patients with dysplasia, hypermobility, or excessive femoral antversion. The surgical goals are to restore chondralabral function and to eradicate ongoing FAI while avoiding overzealous resection that might cause iatrogenic femoral neck fracture, avascular necrosis, or hip instability.

**John Salvo, MD:** This patient has radiographic evidence of symptomatic cam impingement. The first treatment approach would be nonsurgical, with physical therapy, nonsteroidal anti-inflammatory drugs as needed, and time to alleviate symptoms. I would not recommend injections in a 26-year-old because it is unlikely to cure the problem. Lateral radiographs show left hip cam impingement, with evidence of a possible small crossover on the anteroposterior view, but no ischial spine sign and slight undercoverage of the femoral head. The acetabulum tends more toward dysplasia than true pincer impingement. The noncontrast magnetic resonance image reveals a cyst/herniation pit on the anterior femoral neck corresponding to the most likely site of conflict with the acetabular rim with cam impingement. No frank labral tear is seen on the noncontrast image.

If nonsurgical options have failed, surgical intervention would be the next step. I recommend arthroscopy to evaluate and address labral and chondral pathology and address the cam impingement at the same time. In a 26-year-old, the labrum is likely to be amenable to a primary repair. I would not plan on reconstruction at the outset with the radiographs available because it is a generally a salvage procedure.

I would begin with the central compartment and assess the pathology. The labrum may be hypertrophic if it is true acetabular dysplasia and will most likely have a tear. It is critical to do a primary repair if possible to restore labral function as well as prevent loss of hip stability. Suture techniques are also important. I recommend a base or mattress stitch rather than suturing around the entire labrum. This will recreate the bulk of the labrum and be more likely to create a good suction seal in the end. I prefer suture anchors, but sutureless devices work well. The acetabular and femoral cartilaginous surfaces can be arthroscopically evaluated and treated as necessary.

After the central compartment is completed, traction is removed and peripheral compartment arthroscopic assessment is performed. I use intraoperative fluoroscopy to aid arthroscopic identification of the femoral neck conflict. Transverse capsulotomy is performed to fully evaluate the cam lesion. An accessory portal for arthroscopic retractors helps with arthroscopic exposure and protects the capsule from burr damage. I do not routinely perform a T capsulotomy, especially in borderline acetabular dysplasia. Decompression begins at the cartilaginous junction and comes across from medial to lateral. Resecting proceeds distally along the neck. Increased flexion of the hip with some abduction aids in exposing more distally. Internal and external rotation allows exposure more laterally and medially, respectively. Arthroscopic assessment is performed throughout the range of motion from the anterior and anterolateral portals to assure conflict resolution. Fluoroscopy is used to document decompression. Capsule repair should be considered in patients with hypermobility disorders or dysplasia.

Surgical goals are to restore labral function and stability, treat chondral injuries, and resolve the conflict from the FAI. Arthroscopic assessment is critical during and after decompression to prevent over- or under-resection.

**REFERENCES**


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