

Progressive Osteoarthritis of the Hip

Patrick Graham

Introduction

Hip pain is a common complaint among the adult population, affecting an estimated 40% of those older than 40 years. Hip symptoms are more common in those who play sports or generally participate in higher level physical activities, as well as in the aging population. Symptoms may be mild to severe, with associated functional disability often reported as stemming from levels of pain that preclude weight-bearing activities. While some may report a known injury, many patients will present with pain of insidious onset (Deveza & Eyles, 2019; Murphy et al., 2016; Paoloni, 2019).

Osteoarthritis (OA) of the hip, also known as degenerative joint disease or degenerative arthritis, is a progressive pathological process of inflammatory and protease-mediated response that adversely affects articular cartilage, bone, synovium, and surrounding soft tissues. It is more common in those patients older than 40 years and carries a positive correlation with age. An estimated quarter of those who live to 85 years of age will experience symptomatic hip OA. Other than age, risk factors for developing hip OA include previous injury to the affected joint, obesity, anatomic variant, or other abnormal joint morphology and those with high physical demand occupations or leisure activities (Deveza & Eyles, 2019; Loeser, 2020; Murphy et al., 2016; Paoloni, 2019).

Case Presentation

A 48-year-old woman presented with about 4 months of waxing/waning, but overall progressive, left hip pain. There was no specific incident or injury that she could recall. Initially, symptoms were associated only with strenuous activities. She liked to play tennis and participate in exercise classes at her gym. She described an aching soreness, primarily anterior with radiation into the groin, which would typically resolve after a day or two of rest and nonsteroidal anti-inflammatory (NSAID) use. In the next month, the severity of symptoms worsened and would take 3–4 days for resolution. It was at that time that she backed off on exercise classes and tennis, noting an overall resolution in her symptoms.

Unfortunately, during this hiatus, she noted she was still having intermittent symptoms with day-to-day activities. She endorsed stiffness after periods of prolonged sitting when at work, and this concerned her. There was a persistent feeling of “fullness,” as if the hip needed to “pop” or release some pressure. She would sometimes have pain with left side lying, and this would

wake her from sleep. She attributed this to disuse but experienced a significant increase in pain after playing two games of tennis. The persistent nature of symptoms caused her to schedule for orthopaedic evaluation. She did not note any swelling or discoloration and denied experiencing radiating leg pains, numbness, tingling, burning, or any perceived weakness.

Upon presentation was an alert, oriented, affect-appropriate female, in no apparent distress. She ambulated with a mildly antalgic gait, displaying circumduction of the left hip during swing phase. There was no apparent swelling or discoloration about the hip or thigh. She noted a mild tenderness anterior as well as lateral, superior to the greater trochanter about gluteus minimus and medius. Range of motion was grossly equal, with anterior discomfort noted with both FABER and FADIR tests. She noted mild discomfort with scouring and reported pain with resisted straight leg raise (SLR) whereas passive SLR did not elicit a response. Strength was equal in bilateral lower extremities, and she was found to be distally neurovascularly intact.

Radiographs, obtained at the time of evaluation, included an anteroposterior view of the pelvis as well as anteroposterior and lateral views of the left hip (see Figure 1). These were evident for asymmetric joint space narrowing of the left hip. There was geographic lucency with surrounding sclerotic margin within the superior acetabulum, consistent with a subchondral cyst. Also noted were CAM deformity of the femoral neck and subtle ossification lateral to the acetabulum. The constellation of symptoms, physical examination, and imaging findings were consistent with hip impingement and early/mild OA.

Management

The clinical approach to conservative management of hip OA includes a combination of nonpharmacological and pharmacological interventions. Encouraging participation in regular exercise is key to maintaining function and mobility. Programs should be individualized

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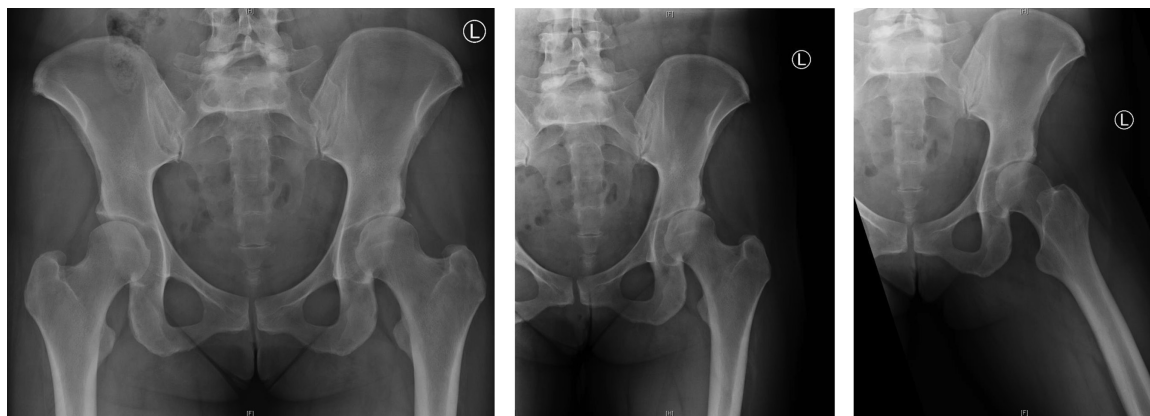


FIGURE 1. Initial visit radiographs—anteroposterior of pelvis, anteroposterior and lateral views of the left hip—no evident fracture or dislocation. Moderate asymmetrical joint space narrowing with subchondral cyst formation within the acetabulum. There is a subtle calcification lateral to the acetabulum.

with a focus on flexibility, stretching, core strengthening, and pelvic stabilization exercises. Patients should continue with weight-bearing activities as able. Aquatic/pool therapy is a good option for patients whose symptoms limit ability to participate in prolonged weight-bearing activities. A progression to physical therapy is appropriate for those patients who are at a higher functional demand level, needing further assistance with exercises, hands-on stretching and manual techniques, modalities, or formal gait training (Deveza & Eyles, 2019; Gay et al., 2016; Murphy et al., 2016; Paoloni, 2019).

The mainstay of pharmacological intervention includes utilization of NSAIDs and acetaminophen, with the latter showing less efficacy as monotherapy. Opiate pain medications are best avoided if possible. Duloxetine, known to be an effective option for the treatment of moderate to severe knee OA, has not been studied in regard to treating hip OA but may be considered as a second-line option in the appropriate patient. Image-guided intra-articular steroid injection should be reserved for those patients with moderate to severe hip disease who are refractory to the above-listed interventions. If the clinician has exhausted these options, the patient with persistently symptomatic hip OA should be referred to an orthopaedic surgeon for consultation on total hip arthroplasty (Brander et al., 2019; Deveza & Eyles, 2019; Murphy et al., 2016).

At the time, the patient's symptoms were mild and primarily associated with activities. We discussed options and, given the noted gluteal involvement, decided on a formal course of physical therapy. She continued with activity modification, over-the-counter medications, and icing when needed. She also underwent a few sessions of acupuncture. Over the next few months, she reported improvement with range of motion and activity tolerance, slowly returning to exercise classes and sports. She would have discomfort from time to time but felt overall steady improvement (Deveza & Eyles, 2019; Gay et al., 2016; Manheimer et al., 2018; Murphy et al., 2016; Paoloni, 2019).

Unfortunately, she experienced a setback after returning to tennis and “overdoing it.” Although there was no specific injury, she experienced such a significant flare that she reported being “down” for 2 weeks. She then returned for a handful of sessions of acupuncture and resumed the physical therapy home exercise program. Her work was quite busy and so was not able to schedule a return visit for a couple of more months. During this time, her symptoms steadily worsened.

She returned for evaluation approximately 7 months after initial visit. She described global hip discomfort, noted as a constant aching pain that would progress to throbbing about the hip as she did weight-bearing activities. The symptoms were significantly limiting her activities of daily living, highlighted by an incident in which she could barely do all of her grocery shopping before being in tears from pain. Given the progression of symptoms, new radiographs were obtained for comparison and were evident for progressive hip OA (see Figure 2). Given her worsening symptoms, with associated radiographic findings now consistent with severe OA, the patient was referred for image-guided intra-articular steroid injection. She noted significant relief for approximately a month and then her symptoms returned. It was at this juncture that she was referred to an orthopaedic total joint surgeon for further consultation and consideration for total hip arthroplasty (Brander et al., 2019; Deveza & Eyles, 2019; Murphy et al., 2016).

Discussion

Hip pain is a common complaint seen in orthopaedic practice. A detailed history and pertinent physical examination, correlated with appropriate imaging findings, will routinely lead to the diagnosis of hip OA. The treatment plan should be individualized, taking into account the patient's functional level and preferred activities, level of pain, as well as its association to functional limitations, and the severity of OA present. A weight loss program, including dietary counseling,

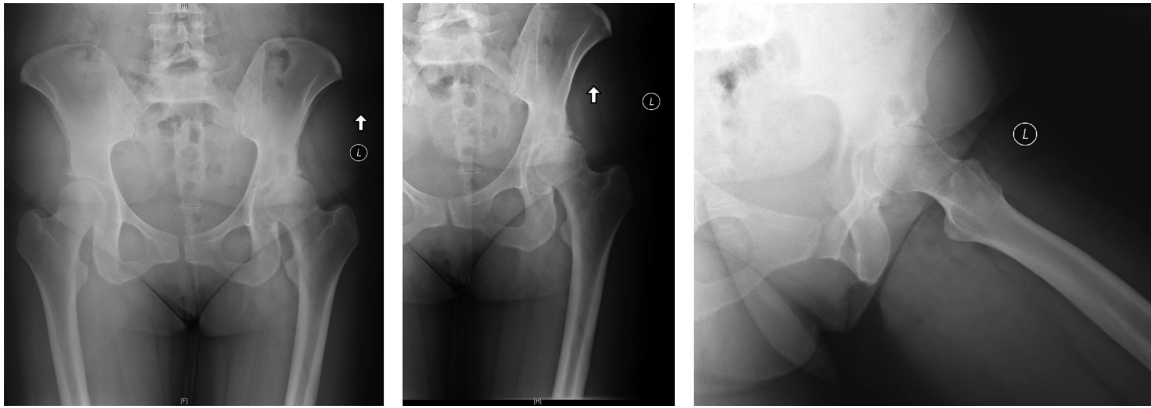


FIGURE 2. Seven-month follow-up radiographs—anteroposterior of pelvis, anteroposterior and lateral views of the left hip. Note progression to near complete loss of joint space. There is more apparent osteophyte formation and worsening of subchondral cyst within the acetabulum.

should be offered to any obese patients. It is important for patients to understand the progressive nature of this condition as to set appropriate expectations for treatment and the likely need for future interventions. Further research is needed to fully understand the efficacy of various conservative interventions as most are extrapolated from studies pertaining to knee OA (Deveza & Eyles, 2019; Gay et al., 2016; Murphy et al., 2016; Paoloni, 2019).

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