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Femoroacetabular Impingement: A Retrospective Case Study With 8-Year Follow-Up

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Abstract

Objective: The purpose of this case report is to describe a patient with femoroacetabular impingement (FAI) who was initially misdiagnosed and treated for a hip flexor strain.

Clinical Features: A 36-year-old male patient presented with insidious onset of progressive anterior right hip and groin pain of 7 years' duration. He was diagnosed with a right-sided hip flexor muscle strain and was discharged from care 1 month later. The patient then returned to the office 8 years later for treatment of unrelated lower back pain. This time, the doctor of chiropractic learned that the patient was misdiagnosed years before. The patient's past radiographs in fact revealed FAI, including severe hip joint osteoarthritis on the right and mild osteoarthritis on the left. As a result, the patient had undergone right hip joint replacement surgery. Recent radiographs also revealed FAI in the contralateral hip.

Intervention and Outcome: After investigating for FAI, the doctor of chiropractic was able to identify through symptomatology, history, physical examination, and radiographs the presence of FAI in the patient's left hip. An "active surveillance" approach is being taken.

Conclusion: This case illustrates the importance of an increasing awareness of FAI, as doctors of chiropractic are frequently the primary contact for patients with this condition.

Introduction

Hip and groin pain are clinical symptoms often encountered in chiropractic practice. [1] There are a variety of conditions that can cause pain in the hip such as arthritis, bursitis, hip flexor strain, and sacroiliac joint dysfunction. Due to the similarities in the symptoms a thorough history and physical exam is critical to the correct diagnosis. Femoroacetabular impingement (FAI) is a condition resulting from shape abnormalities of the acetabular rim and proximal portion of the femur that can produce symptoms similar to the aforementioned hip conditions. [1] FAI is a relatively new diagnostic entity and is often misdiagnosed. [2]

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Three main types of FAI have been identified: cam, pincer, and a combination of both. The cam (or "pistol-grip")-type impingement represents 65% to 75% of all cases of FAI. [1,3] It is characterized by a non-existent or deficient offset between the femoral head and neck, morphologically resembling a pistol handle, and is usually seen in young active men, aged 20 to 30 years [4–7] (Fig 1). The pincer type of FAI constitutes about 25% of all cases. It is caused by acetabular abnormalities (Fig 1) and is most often encountered in middle aged, active women. [1–3,6,7] Fewer than 10% of patients have a combination of the 2 types. [1,3,6]

FAI has been strongly linked to pain and premature degenerative changes in the hip joints of young adults. [2] It is estimated that the prevalence of FAI is as high as 14% in the general population. [1] FAI has only recently been identified as a diagnostic entity. It has been gaining recognition over the past 6 to 7 years, especially in the orthopedic literature. [1–4]

While it has been observed that FAI may predispose to subsequent osteoarthritis (OA), [6] the association of FAI morphology with the development of future OA remains poorly understood. [6] However, early recognition of FAI may be of particular significance among Doctors of Chiropractic because early diagnosis and treatment may possibly delay or even prevent the development of OA. [6] A lack of awareness of FAI has been shown to commonly lead to delays in diagnosis of an estimated 2 to 4 years. [1,3,8] A study published in 2009 by Clohisy et al [8] revealed that the mean time from the onset of symptoms to a definitive diagnosis of FAI was 3.1 years, [1,8] and that patients were evaluated by an average of 4.2 healthcare providers before an accurate diagnosis was established. [1,8]

The purpose of this case report is to describe a patient with FAI who was initially misdiagnosed and treated for a hip flexor strain. This case also illustrates the importance of increasing the awareness of FAI, as Doctors of Chiropractic are frequently the primary contact for patients with this condition. [1] The Medline, CINAHL, and Science Direct databases were searched using the terms, "femoroacetabular impingement syndrome," in order to review the literature for this case.

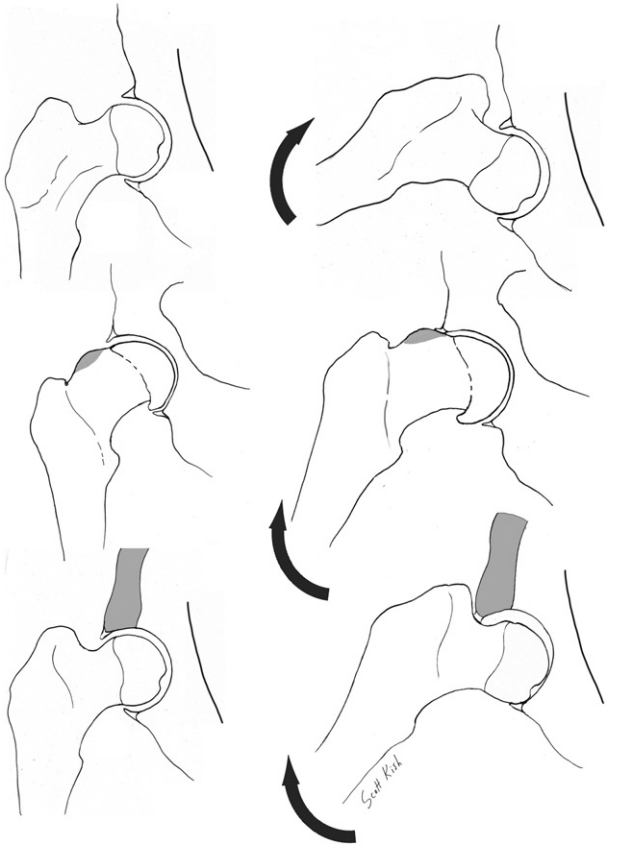

Fig 1. Types of FAI. Diagram showing a normal hip with unrestricted range of motion (top), a cam (or pistol-grip) deformity jamming into the acetabulum (middle), and a deepened acetabular fossa with impingement in the pincer-type (bottom). The osseous "bump" and acetabular over-coverage are highlighted (in dark grey) in the cam and pincer hip joints, respectively.

Case Report

Initial Presentation

Initial History

A 36-year-old male truck driver presented for chiropractic treatment. His complaint was insidious onset of progressive anterior right hip and groin pain of 7 years' duration. The right hip and groin ached constantly, but was sharp and graded as 8/10, where 0 equals no pain and 10 equals the worst possible pain, particularly during sports activities (eg, ice hockey and running), walking upstairs, or after prolonged sitting. Over-the-counter non-steroidal anti-inflammatory medication (Ibuprofen, Motrin) self-prescribed by the patient was palliative. Dejerine's Triad (ie, coughing, sneezing, or bearing down for a bowel movement) was negative. The patient participated in contact sports such as ice hockey and football throughout childhood, but reported no major hip injuries during that time or since. His medical, family, and social history were unremarkable.

Initial Physical Examination

Initial orthopedic examination, beginning with the Thomas and Nachlas' tests, [9] revealed a tight right