



REVIEW

Anterior hip pain – Have you considered femoroacetabular impingement?

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Abstract Anterior hip pain is a frequent presentation in both primary care and musculoskeletal practice. Common diagnoses of anterior hip pain include iliopsoas tendinopathy and bursitis, snapping hip syndrome, osteoarthritis of the hip and sacro-iliac joint dysfunction or spinal referred pain. More potentially serious conditions including inguinal hernias, avascular necrosis of the femoral head and psoas abscess all need to be considered.

One cause of anterior hip pain is femoroacetabular impingement (FAI). Here follows a short review of the typical clinical presentations, imaging features and management options of FAI. The possible role of osteopathy in the management of this condition will also be briefly discussed.

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Introduction

Femoroacetabular impingement (FAI) is recognized as an important cause of premature osteoarthritis of the hip in the young population.^{1–5} There are a number of clinical examination and imaging findings established in the literature that can help in the diagnosis of FAI. The natural course of the disease is still largely unknown, but early diagnosis and appropriate surgery has been shown to reduce

symptoms and improve function at least in the short term.^{6,7} Early surgical intervention is also believed to reduce the risk of significant degenerative changes in later life. There are two types of FAI (Fig. 1); ‘cam’ and ‘pincer’, although mixed types do exist.⁸ In the cam lesion (the femoral component of FAI) there is a decrease in the normal waist and asphericity at the femoral head-neck junction. The pincer lesion (the acetabular component of FAI) results from focal or generalized over-coverage of the acetabulum. These variances are thought to predispose to early and repetitive pathological contact between the femoral head and the acetabular labral and

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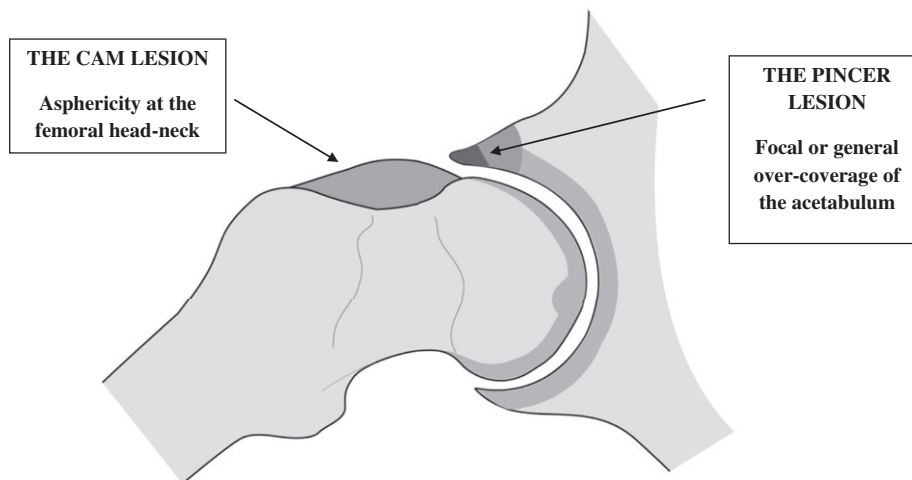


Figure 1 The 2 types of FAI – the cam and pincer lesion.

articular surfaces during movement of the hip joint. It is proposed that labral and articular surface damage that results from this repetitive contact predisposes the individual to the early development of osteoarthritis. Osteopaths may be the first port of call for young patients who present with hip pain that is associated with FAI.

Clinical presentation

The clinical presentation is variable. The condition affects the young to middle-aged and has a rather insidious presentation but may develop more abruptly following trauma. FAI appears to have a propensity to individuals who have sporty and active lifestyles.⁹ Groin pain appears to be the most common site of presentation, but as with other disorders of the hip, pain may be referred to the low back, buttock or knee.⁹ Typically, affected individuals are aware of limited mobility of the hip before symptoms begin.¹ Restricted movements of the hip, particularly in flexion, internal rotation and adduction and a positive Trendelenberg sign may all be elicited.¹⁰ Specific tests for FAI, with high degrees of sensitivity and specificity have been described.² A positive 'Impingement Sign' marks the presence of anterior FAI; in this test, pain in the groin is reproduced when the hip is forced into internal rotation in 90° of flexion. A 'Posterior Impingement Sign' on the other hand,

reproduces pain when the extended hip is forced into external rotation. Although described in other hip disorders, in some cases the hip on initiation of flexion may swing into external rotation. This is termed the 'Drehmann' sign.¹¹

Imaging features

A number of radiographic parameters associated with FAI have been described. Standard anteroposterior radiographs and cross table lateral views of the proximal femur will uncover many of the morphological factors associated with cam and pincer FAI (Figs. 2 and 3). Quantitative radiographic analysis is frequently undertaken by radiologists to assess the degree of asphericity of the femoral head-neck junction (Fig. 4) and coverage of the acetabular cup. As expected, advanced cases will show the typical signs of osteoarthritis (loss of joint space, sub-chondral sclerosis, sub-chondral cysts and osteophyte formation). MRI with injection of contrast into the joint (MR arthrography) and its multi-planar capability provides the gold standard of imaging in FAI and demonstrates not only the morphological abnormalities that are present, but also subtleties including labral degeneration and tears and hyaline cartilage ulceration (Fig. 5). Precise detail of these radiological features is beyond the scope of this paper and the reader is encouraged to refer to the excellent paper by Tannast et al.¹

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