

Femoral Acetabular Impingement

An Important Diagnosis

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INTRODUCTION

Femoral acetabular impingement (FAI), is caused by abnormal prolonged contact between the acetabulum and the femoral head/neck. There are two distinct deformities recognised in FAI: CAM and Pincer (Fig.1). FAI affects the young active population and has been estimated to be present in 15-20% of the population. It is recognised as the leading cause of labral tears, a precursor to the development of osteoarthritis. Early diagnosis of FAI is vital to prevent irreversible chondral damage to the hip. Delay in diagnosis and treatment has been shown to effect outcomes post surgery.

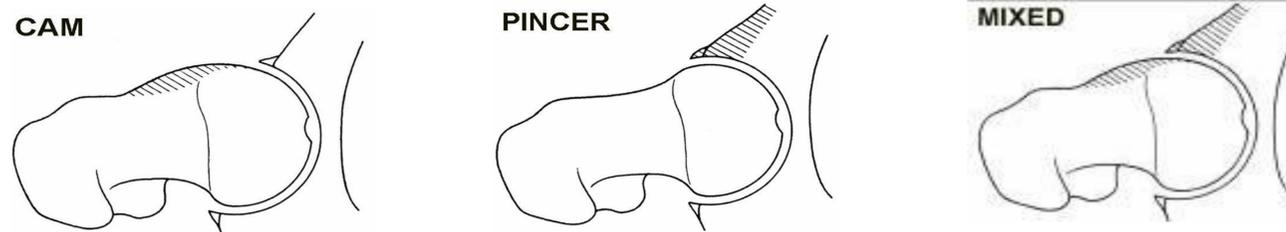


Figure 1: Type of FAI

AIMS AND OBJECTIVES

The aim of this study was to evaluate the common presenting symptoms and the most sensitive clinical tests used in the diagnosis of FAI. The objective of this study is to improve the understanding and early diagnosis of FAI.

METHODS

267 patients were included in this study. All patients completed a detailed questionnaire, reporting on duration of symptoms, the nature and location of symptoms. A range of specific clinical tests were employed including the anterior impingement test (Fig. 2A) and FABER test (flexion, abduction, external rotation) (Fig. 2B); the range of hip motion (ROM) (Table 1) was also measured.



A: Impingement Test



B: FABER Test

Figure 2: Clinical tests

RESULTS

Out of 267 patients, there were 196 males (average age 31 years) and 71 females (average age 38 years). Post activity pain and stiffness was the most common presenting symptom of FAI. In the majority of cases there was a gradual onset of symptoms (81%) with pain present in the groin and around the hip. The anterior impingement test was the most sensitive test (78% positive in reproducing pain) (Fig 4A). The FABER manoeuvre was positive in 48% (Fig. 4B). Patients demonstrated significant reduction in hip motion particularly with internal rotation. Significant delays in diagnosis of FAI are common with almost 50% of patients presenting to the Hip and Groin Clinic experiencing symptoms for over a year before diagnosis.

Figure 3: Symptom location

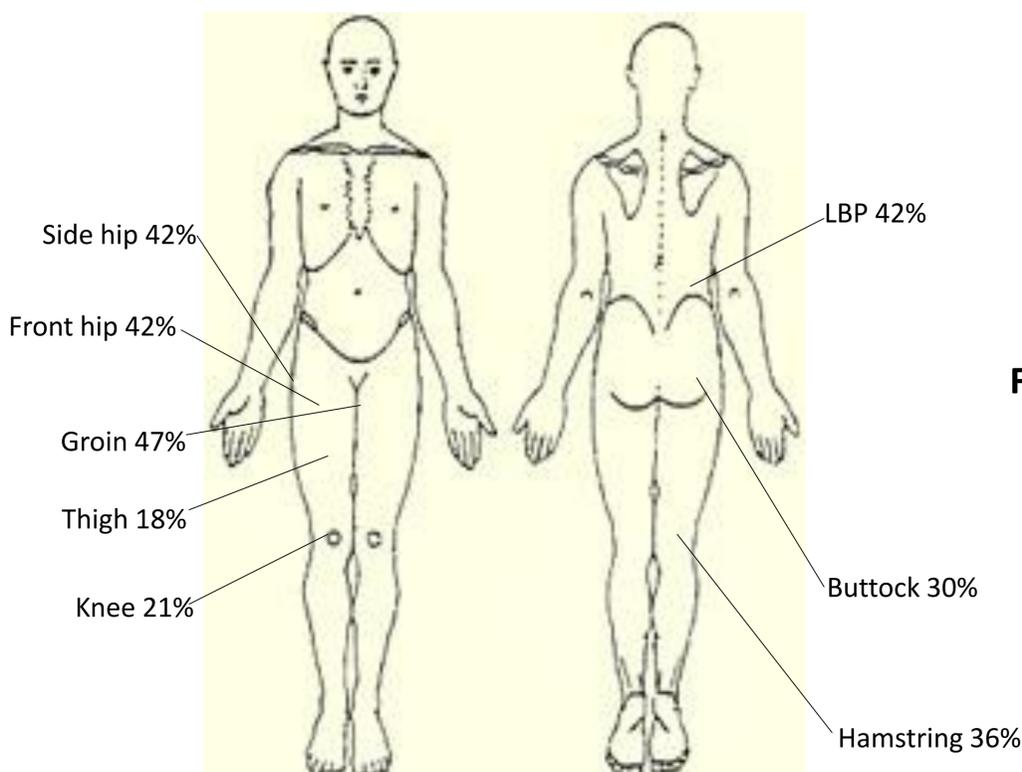


Table 1: Range of motion

Movement	Mean (SD)	Median (IQR)	Normal
Flexion	110(+/-13)	112(103-119)	120
Abduction	40(+/-7)	40 (36-45)	40
Adduction	19(+/-8)	19(15-23)	25
External rotation	34(+/-8)	34(29-39)	45
Internal rotation	27(+/-11)	26 (20-34)	45

Figure 4: Symptom duration (at diagnosis)

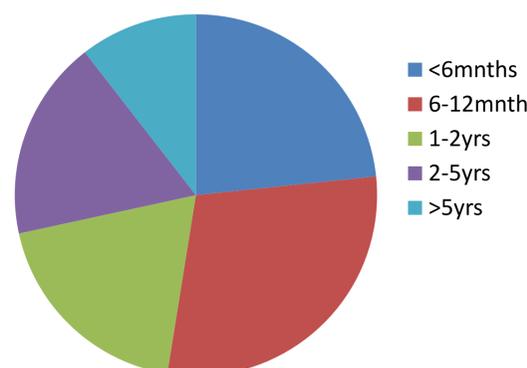


Table 2: Nature of symptoms

Nature	%
Pain after activity	76%
Pain during activity	68%
Stiffness after activity	65%
Limping after activity	51%
Clicking	51%
Stiffness at rest	43%
Constant limping	9%

CONCLUSION

This study clearly demonstrates the most common presentation of symptoms and clinical signs in patients diagnosed with FAI. Delay in diagnosis is a concern, as recent studies have shown improved outcome from surgery with early intervention for patients with symptomatic FAI. An improved general awareness of FAI, with better understanding and earlier diagnosis, may in turn lead to earlier intervention and improved treatment success.