Femoroacetabular impingement

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Femoroacetabular impingement (FAI) has recently been recognised as a cause of hip pain in the young adult and may lead to secondary hip OA. Two distinct types of FAI have been described – cam and pincer – although many patients have a mixed picture with both morphologies occurring simultane ously . Cam FAI is secondary to abnormal morphology of the femoral head and neck junction whereas pincer FAI is a result of anterior overcoverage or retroversion of the acetabulum. The cam deformity is typically described as an abnormal bony bump at the femoral head–neck junction (Figure 39.5a measured as an alpha angle of >55° (Figure 39.5b,d alpha angle is ideally measured on the Dunn view , which is a 45° lateral view of the hip. This view is useful to identify subtle cam deformities that are not clearly visible on the AP radio graph (Figure 39.5c,d , arrow pointing to the cam deformity). The alpha angle can be measured on the AP radiograph if severe but the extent is accurately assessed on the Dunn view . The alpha angle is the angle made by a line along the centre of the femoral neck to the centre of the femoral head and another from the centre of the femoral head to the point on the femoral head outside the imaginary circle, as shown in Figure 39.5b,d Denis M Dunn , 1916–2001, consultant orthopaedic surgeon at the Colchester and District Hospital Group and honorary assistant surgeon at The London Hospital, London, UK. Dietrich Tönnis , 1927–2010, German paediatric orthopaedic surgeon. He had an interest in the hip joint, especially dysplastic hips. centre–edge angle (LCEA) measured on the AP radiograph (Figure 39.5b) of over 40° (normal 25–40°). The LCEA is the angle formed between an imaginar y vertical line from the centre of the femoral head and another from the centre of the femoral head to the lateral edge of the acetabulum. The impingement, which occurs during deep hip flexion or earlier with internal rotation as a result of the abnormal morphology , results in damage to the labrochondral junction. Patients typically present with groin pain and limita tion of activities related to deep bending and rotation. Plain radiographs are useful in evaluating the bony deformity . Further evaluation with MRI typically reveals acetabular labral and chondral lesions and abnormal femoral head morphology in the case of cam deformity . Computed tomography (CT) scan, especially three-dimensional (3D) CT , is helpful in accurately assessing the proximal femoral morphology , acetabular coverage and posterior joint space and allows for planning management. Treatment options for FAI depend on the patient’s symptoms and vary from non-operative treatment to hip preservation procedures that aim to address labral, chondral and bony pathology; this can be achieved with arthroscopy , safe surgical hip dislocation or osteotomy of the femur and/or acetabulum. Femoroacetabular impingement

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