

Posterior Dislocation Of The Hip In A Child Following Trivial Trauma: A Case Report

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Abstract

INTRODUCTION

Traumatic dislocation of the hip joint is an uncommon condition in the paediatric population. A soft, pliable acetabulum, with associated laxity of ilio-femoral ligaments, may predispose the immature hip joint to a dislocation following minimal trauma.

Hereby, we report one such case in a seven-year old child who sustained a posterior dislocation of the hip joint following a fall from a skateboard. To the best of our knowledge, this appears to be the first reported case of a paediatric hip dislocation secondary to a skateboard injury, serving to highlight the occurrence of a serious condition following this type of common trauma.

CASE REPORT

A seven-year old boy was brought immediately to the Accident and Emergency department with a painful right knee, and inability to weight bear, following a trivial fall from a skateboard whilst playing. The child was otherwise fit and healthy, with no significant past or family history.

On examination, he was found to be alert, co-operative and haemodynamically stable. But on clinical examination of his lower limbs, the right hip joint appeared to be partially flexed, adducted and internally rotated, with associated limb shortening (Fig 1). The right knee appeared intact and there was no evidence of distal neurovascular deficit. All movements were painfully restricted.

Figure 1

Figure 1: Photograph showing characteristic appearance of the limb (right leg) in a case of posterior dislocation of the hip joint.



A provisional diagnosis of a dislocated hip was made and this was further confirmed by radiology. A plain radiograph of the pelvis revealed a posterior dislocation of the right hip with no associated fractures (Fig 2). Adequate analgesia was provided and the child was referred to the orthopaedic surgeons for further management.

Figure 2

Figure 2: Plain radiograph of pelvis showing posterior dislocation of the right hip joint



An urgent closed reduction under general anaesthesia was attempted within three hours following the injury. Post reduction radiograph revealed a non-concentric reduction of the right hip and hence a decision to proceed to a formal open reduction was made. At surgery, extensive soft tissue interposition was noted, and an open reduction with repair of the dislocated hip was performed. Post operatively the patient was managed in a hip spica for three weeks. He had gained full range of pain free movement at eight weeks, and was noted to be mobilising satisfactorily on a recent follow-up.

DISCUSSION

Traumatic dislocations of the hip joint in children are uncommon orthopaedic injuries, constituting less than 10% of all traumatic hip dislocations ¹. It is usually seen in children in the pre-adolescent age group between seven and ten years ². Although it is commonly associated with high energy road traffic accidents, the soft pliable cartilage and generalized ligamentous laxity that comprise a child's acetabulum can lead to dislocation secondary to insignificant falls, as was evident in our case. A thorough search of literature reveals such dislocations to have been attributable to jogging, skiing, basketball and mini rugby ³.

Hip dislocations tend to be mostly posterior, in view of the anatomical configuration of the ball and socket hip joint, but anterior and inferior dislocations have also been reported infrequently ⁴.

Children with traumatic dislocation of the hip joints usually present with similar clinical findings to dislocated hips in

adults, i.e. flexion, adduction, internal rotation with some degree of limb shortening. Referred pain to the knee joint with a normal looking knee is one of the important clinical features that should alert the clinician to perform a thorough examination to exclude a proximal lesion, especially when associated with a significant history of inability to weight bear following trauma ⁵.

Major complications that are known to be associated with dislocation of the hips include avascular necrosis of the femoral head leading to premature osteoarthritis, soft tissue interposition and re-dislocation, neurovascular damage, fracture of the neck of the femur and separation of epiphysis. Coxa magna, premature epiphyseal fusion, and heterotopic calcification have also been noted to occur as long-term sequelae to this clinical entity ⁶.

Plain radiography is adequate to confirm a diagnosis of dislocation of the hip, but computed tomography or magnetic resonance imaging may be required to assist in planning definitive management, especially when associated with clinical or radiological evidence of fractures and soft tissue injuries, or in cases of recurrent dislocations ⁷.

The main therapeutic goal is prompt reduction of the hip in order to minimise the grave risk of avascular necrosis of the femoral head, which is known to occur in about 10% of cases of dislocation of hips ⁶. In the event of failed closed reduction owing to incongruity of the joint or instability, an open reduction should be considered ⁸.

In conclusion, this case report serves to highlight that traumatic dislocation of the hips in children is not uncommon, even in the absence of significant trauma. A high index of suspicion is required, as early recognition and prompt relocation of the hip joint by either closed or open techniques, will help to prevent potentially serious complications.

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