CASE REPORT

Fractured fibula can mimic irritable hip

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A traumatic limp is a common presentation in childhood, particularly in the under 5s. While the commonest diagnosis is irritable hip ascribed to a transient synovitis, there is a long list of other and more sinister diagnoses.¹⁻³ Clinical algorithms have been suggested to allow diagnosis and management, while avoiding the need for extensive investigation in most children.⁴ We present three cases where this approach missed the diagnosis of fractured fibula.

CASE 1

A 20 month old child was referred by his general practitioner with a five day history of left sided limp. He was able to weight bear and had had an upper respiratory tract infection during the previous week. There was no history of trauma. He had a low grade fever. He had full range of movement of his hips and there was no local tenderness. Full blood count and C reactive protein were normal. The erythrocyte sedimentation rate was 25. A provisional diagnosis of irritable hip was made and he was managed conservatively.

On review three days later his limp was worse and he had developed gastroenteritis. His erythrocyte sedimentation rate was 47. An ultrasound of his hips was normal and there was no ultrasonic evidence of periosteal reaction along his femur, tibia, or fibula. A bone scan the following day suggested a fracture of his left fibula. A plain radiograph revealed a healing fracture of the left mid-shaft fibula.

CASE 2

A 20 month old child was referred to the Paediatric Department with a two week history of limp. His parents originally felt that he needed new shoes. He had an upper respiratory tract infection but no systemic upset. There was no history of trauma. He was not weight bearing on his left leg. His hips had a full range of pain free movement. The child had no bone pain, swelling, or tenderness. Full blood count and C reactive protein were normal. Erythrocyte sedimentation rate was 24. No radiological investigations were requested. A provisional diagnosis of irritable hip was made and he was managed conservatively.

One week later his limp had improved but he cried when he jumped on his left foot. He walked with his left leg externally rotated. A plain radiograph of his hips and lower limbs revealed an undisplaced fracture of his mid-shaft fibula. A follow up radiograph one week later showed a healing fracture.

CASE 3

A 15 month old child presented to the Paediatric Department with a three week history of intermittent limp and walking on the lateral aspect of his left foot. There was no history of trauma or other preceding illness. He was afebrile with no localised tenderness, erythema, or swelling of his lower limbs. His full blood count, erythrocyte sedimentation rate, and C reactive protein were all normal. An ultrasound of his hips was normal, but the ultrasound did reveal a periosteal reaction of the mid-shaft of the left fibula. A radiograph of the left lower leg confirmed a healing fracture of the fibula.

DISCUSSION

Fractured fibula should be added to the differential diagnosis of atraumatic limp in childhood. Unexplained fractures in

young children are suggestive of non-accidental injury. In each of the described cases the possibility of non-accidental injury was considered and discussed with the parents and in some cases with Social Services. In no case was the diagnosis of non-accidental injury sustained. Simple fracture of the fibula does not suggest non-accidental injury in children over 1 year of age.⁵⁻⁷ There are reports of apparently spontaneous stress fractures of tibia or fibula in toddlers.^{8,9}

It may seem perverse to diagnose irritable hip in the absence of physical signs apart from limp, but the diagnosis is made by exclusion, and clinical assessment of these children is often problematic. These cases illustrate the difficulties of physical examination. Pain and tenderness at the hip is often minimal and careful observation and palpation of the entire limb, as in these cases, may be normal.

Nevertheless these cases should not indicate early radiology in children with atraumatic limp. The fractures described require no specific treatment. In children without significant physical signs radiology can reasonably be deferred for a week or so. For children with persistent or recurrent symptoms radiology of the whole limb is necessary and on occasion other modalities such as bone scanning are necessary to detect the abnormality. They do illustrate the need for complete x ray examination of the lower limbs for those children and possible other investigation with recurrent or persistent symptoms.

CONCLUSION

Fibula fracture should be added to the long list of causes of atraumatic limp. Initial clinical assessment should include careful inspection and palpation of the lower limbs and consideration of non-accidental injury. If symptoms are persistent, radiology or bone scanning may be needed to confirm the diagnosis.

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