



Post-traumatic incongruent hip in a 12-year-old boy

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Traumatic hip dislocation is uncommon in the paediatric population. Post reduction radiographs often show an incongruent hip because of tissue interposition.

We report the case of a 12-year-old boy who was transferred to our hospital with an incongruent hip after a skiing accident, without a history of hip dislocation.

Keywords : incongruent hip ; hip subluxation ; soft tissue interposition ; avulsion fracture of ligamentum teres ; labral tear.

CASE REPORT

A 12-year-old boy presented to the emergency department with a history of left hip injury following a skiing accident two days earlier. Clinical examination revealed a diffusely tender hip with pain radiating towards the knee. There was a reduced range of hip motion, which returned to almost normal with minimal traction. He was unable to bear weight and there were no clinical signs of infection or dislocation. Radiographs demonstrated an incongruent left hip without evidence of a fracture (fig 1). CT imaging showed a bony interposition (fig 2). The MRI scan revealed an interposed, avulsed posterior labrum (fig 3). Tissue interposition prevented concentric reduction.

A decision was taken to operate on the hip through a Kocher-Langenbeck incision. The



Fig. 1. — Increased joint space left hip. No clear fracture detected.

femoral head was subluxed and a 30° arthroscope was inserted into the joint revealing an interposed bucket handle labral tear with bony detachment of the posterior labral complex (fig 4) and an avulsion fracture of the femoral insertion of the ligamentum teres (fig 5). The ligamentum teres, the avulsed insertion and the prolapsed edges of the bucket handle tear of the labrum were excised. Concentric reduction of the hip was obtained.

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Fig. 2. — CT scan showing bony interposition preventing concentric reduction.

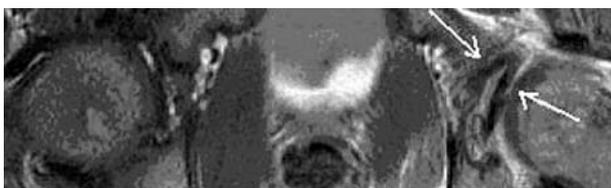


Fig. 3. — MRI : Soft tissue interposition of posterior labrum and ligamentum teres.

The postoperative management consisted of traction with passive mobilisation for 4 weeks, followed by full weight bearing. The patient regained a full range of pain free hip motion and has now returned to sporting activities. Clinical examination revealed a leg length discrepancy, with the left leg being 8 mm longer. A post operative MRI at 20 weeks showed some minor oedema in the femoral head and an excised posterior labrum but otherwise no abnormalities.

DISCUSSION

A soft, pliable cartilaginous acetabulum, with associated laxity of ilio-femoral ligaments, may predispose the immature hip to a dislocation following minimal trauma (8). The partially radiolucent secondary ossification centre of the hyaline cartilage of the ischium is vulnerable to injury and may give rise to the above described injury (9). Many reports describe tissue interposition after hip dislocation, but few document such findings after a spontaneous reduction. The combination of a combined bony and soft tissue interposition has rarely been reported in the literature (5). Associated complications are reported to be common ; the inci-

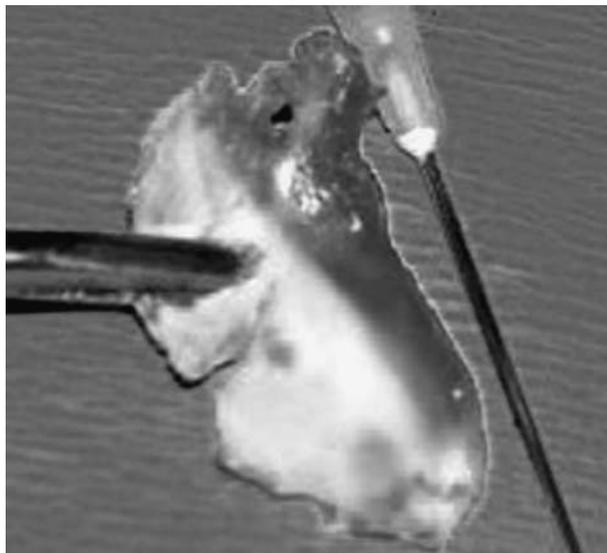


Fig. 4. — Partially excised posterior labrum attached to its acetabular cartilage.



Fig. 5. — Avulsion fracture of ligamentum teres from the femoral head (arrow).

dence of avascular necrosis (6-10%) still appears to be lower than in adults (1). The incidence of premature coxarthrosis and coxa magna remains underestimated (1).

Recent papers highlight the benefit of arthroscopic treatment of tissue interposition (4), although there is little published evidence about the long term benefits.

There is no clear current evidence supporting the postoperative traction that was used with this patient. Although no pre-operative leg length measurement was made, we feel that the measured leg length discrepancy is idiopathic and bears no relation with the described pathology. A postoperative

hip spica for two weeks followed by early passive mobilisation with increasing weight bearing may be a preferable option (4, 10).

CONCLUSION

Even without a history of hip dislocation, radiographs indicating asymmetrical joint space of the hip after trauma should warrant further investigation for bony and/or soft tissue interposition (3, 5, 6, 9). This should be undertaken by means of CT and/or MRI scans (2, 3, 7, 8, 9).

If the incongruity is due to interposition, the literature clearly highlights the importance of restoring the hip congruency through operative treatment. More recent papers describe the benefit of hip arthroscopy performed by an experienced surgeon (2, 3, 4, 5).

We would not advise the use of prolonged post-operative traction and immobilisation in this age group.

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