MEDICAL MEMORANDA

Unusual Cause of Central Dislocation of the Hip

P. R. ELLIOTT

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In British literature central dislocation of the hip is mostly attributed to road-traffic accidents. In the present case fracture occurred in a normal, healthy woman while playing netball.

Case Report

A 23-year-old teacher of physical training was admitted to another hospital on 28 February 1971 with a history of sudden onset of pain in the right hip during a game of netball played on a concrete surface. She stated that she had jumped about 3 ft (91 cm) into the air and landed on her right heel with the knee locked in extension and the hip flexed at about 10°. She was unable to walk after the injury and an x-ray film taken on admission showed a fractured acetabulum (Fig.) She was treated with skin traction in a Thomas splint. There was no history of previous fractures,

X-ray film on 28 February 1971 showing fracture of right acetabulum.

she did not complain of any abnormal symptoms, and she had not had any illnesses and was not taking drugs. Her height was 5 ft 8½ in (144 cm) and her weight 10 st 6 lb (66 kg). Full physical examination showed nothing abnormal.

Three days later she was transferred to this hospital, where again no physical signs were found. Examination of the right hip showed flexion to 90°, extension full, internal rotation 5° and painful, external rotation 45°, abduction 35°, adduction normal.

She was treated with simple skin traction for a month and physiotherapy (non-weight bearing) and was allowed home on crutches on 4 April.

Westhill Hospital, Dartford, Kent

P. R. ELLIOTT, M.R.C.S., L.R.C.P., Senior House Officer in Orthopaedics
(Present address: Queen Mary's Hospital, Sidcup, Kent)

On her first visit to the fracture clinic on 3 May it was noted that she had a full range of movement apart from limitation of internal rotation of the right hip. Most ranges were painless. At this time blood tests showed haemoglobin 11.1 g/100 ml, white blood count 6,500/mm³ (normal film), erythrocyte sedimentation rate 24 mm/hr, and serum alkaline phosphatase 6 units.

She attended the physiotherapy department for hip exercises and made good progress. Repeat x-ray films at the time showed the fracture uniting.

On 28 May the serum alkaline phosphatase was still 6 units. Erythrocyte sedimentation rate was 15 mm/hr, serum calcium 8.7 mg/100 ml, and serum phosphorus 2.9 mg/100 ml. These were repeated later in the course of her convalescence and remained normal.

At the next visit on 1 September she was found to have right hip flexion of 90° with no fixed flexion deformity. Abduction was 45°, adduction 45°. External rotation was limited by 20°. Internal rotation was full but was painful with the knee extended. At the time she was able to walk and jump normally on one leg. She was advised to resume her physical training activities but to avoid jumping from heights.

When seen on 3 November she had been back at work for two months. She complained of occasional twinges of pain in the groin, especially on hyperextension of the hip. Her last x-ray films showed a good contour to the acetabulum and a good joint space.

Comment

The usual cause of central dislocation is a transmitted blow along the femur. The mechanism of injury is such that a road-traffic accident is the commonest cause. Knight and Smith (1958) discussed other mechanisms, such as crush injuries in coal mining or severe abduction leverage as in doing the splits. Judet, Judet, and Letourel (1964) reported 159 cases, 128 of which had resulted from road-traffic accidents, 22 from direct blows to the greater trochanter, eight from falls from a height, and one from a blow on the posterior aspect of the pelvis.

In sport injuries to the lower limb are common, especially in physical contact games (Williams, 1962). A symposium in 1970 on stress fractures in athletes did not mention fracture of the pelvis (Devas, 1970). Injury in netball is also rare. In a series of sports fractures seen at the Middlesex Hospital none were due to netball (Raffle, 1969). A search through the literature failed to produce any evidence of fracture of the acetabulum occurring during the course of a netball game.

In this case the fractured acetabulum resulted from strain, which must be encountered by thousands of netball players in a year. There was no evidence of a pathological fracture, and the patient's blood count etc. remained within normal limits.

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