Current Problem Case

Traumatic Dislocation of the Hip with Separation of the Proximal Femoral Epiphysis

Report of Two Cases and Review of the Literature

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Summary. Traumatic hip dislocation with separation of the proximal femoral epiphysis is a rare injury. Twenty-six observations collected from the literature, together with two further cases presented in this paper, were statistically evaluated. Two types of injury were considered: T1, dislocation with complete separation and displacement of the epiphysis; and T2, dislocation with incomplete separation of the epiphysis. Two main therapeutic protocols had been carried out: restoration of anatomy, supplemented by different means of stabilization; and removal of the epiphysis with or without complementary procedures. Fifteen patients had been followed up for 2 years or more and avascular necrosis had been found in all of them. Leg-length discrepancy also had significant incidence. Eleven patients with T1 injury had been followed up to skeletal maturity: results were fair in four patients and poor in seven. Early surgical restoration of the proximal extremity of the femur, stabilized with Kirschner wires and cast, is the recommended treatment.


Traumatic dislocation of the hip with associated separation of the capital epiphysis of the femur is a rare injury, with an extremely high incidence of complications and poor results and no definite trends of treatment. The purpose of this paper is to report two such cases and, considering these observations and those collected from the literature, to discuss this complex injury and the basis for its adequate therapy.

Case Reports

Case Report 1

A 15-year-old boy was struck by a car on December 14, 1971, and was admitted to the hospital 1 h later. He had sustained multiple contusions and lacerations, a fracture of his left leg, and a fracture-dislocation of his right hip, consisting of posterior dislocation with separation of the capital femoral epiphysis (Figs. 1a and b). Next day, while an open reduction of the hip injury was being considered, the patient presented acute respiratory distress and was transferred to the intensive care unit with the diagnosis of fat embolism. Four weeks later he was in
a condition to undergo major surgery. At that point, the initial therapeutic plan was modified. Through a posterolateral approach to the hip the epiphysis was removed and an arthroplasty with interposition of fascia between the femoral neck and the acetabulum was performed. Skeletal traction was maintained for 6 weeks and weight-bearing was permitted after a further period of 12 weeks. The left leg was treated non-operatively. Eleven years later the result is considered poor because of disabling pain, restriction of hip-joint movement and of the patient’s activity, and degenerative joint disease (Fig. 1c).

Case Report 2

A 15-year-old boy was hit by a car while driving his motorcycle on May 27, 1979, sustained multiple injuries, and was admitted to the hospital some 2 h later. He was conscious but in shock. There was blunt right thoracic trauma, a third degree open fracture of the left leg and foot, and a posterior right hip dislocation with separation of the capital epiphysis (Fig. 2). The patient was operated upon by the thoracic specialist and, in the same surgical procedure, the open fracture was débrided and stabilized by means of external fixation. The treatment of the fracture-dislocation of the hip, a further major surgical intervention, was intended to be performed as soon as the general condition had improved. However, the open fracture became infected and this precluded clean hip surgery. Further débridement of the open infected fracture enabled the infection to be controlled some 6 weeks later. By this time the separated femoral proximal epiphysis had undergone resorption and no active treatment was considered. The left leg and foot fractures had healed 7 months after the injury, and the patient became ambulatory. Thirty-one months later he complained of persisting hip pain and disability—he worked as a farmer—and a hip arthrodesis was performed. Nine months later the patient is pain free, has returned to work, and is satisfied with the result.

Patients

The number of hip dislocations with separation of the proximal femoral epiphysis (HDSPFE) collected from the literature, including the observations reported in this paper, totals 28 (Table 1). The age at the time of dislocation was known in 25 patients and ranged between 2 years 6 months and 16 years. Six children were younger than 6 years, five children were in the age-at-injury group 6–10 years, and 14 children were aged between 11 and 16 years. Twenty-two observations provided information on sex, with 17 males and five females.

The causative trauma was stated in the records of 18 patients, being severe in 17 (16 automobile accidents and one collapse of a building) and moderate in