

Fracture with loss of the proximal femur in a child

A case report

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Summary. *An 8 year old child was involved in a road accident and sustained a large wound in the left groin; radiographs showed a fracture with loss of the proximal femur. After skeletal traction for 80 days, there was bony regeneration of the proximal femur. At 8 months she was able to walk without support and her left leg was 2 cm only shorter than the right.*

Résumé. *Une petite fille de 8 ans a été victime d'un accident de voiture. Elle présentait une vaste plaie de la région inguinale. Les radiographies montraient une fracture avec avulsion de l'extrémité supérieure du fémur. Après 80 jours de traction on a constaté la reconstruction de la partie proximale de la diaphyse fémorale. Au 8ème mois la blessée pouvait marcher sans canne et son membre inférieur n'était raccourci que de 2 cm par rapport au côté opposé.*

Case report

A girl, aged 8 years, was involved in an accident when riding with her mother on a motor cycle. She was unconscious on admission and had sustained fractures of both legs and her right wrist. Apart from several superficial abrasions, she had a large wound in her left groin through which the acetabulum could be palpated. The femoral vessels were intact. No trace could be found of the femoral head.

Radiographs showed a fracture with loss of the proximal femur and only a small shell from the greater trochanter remaining (Fig. 1). The avulsed fragment of the femur had not been found.

The wound was sutured and skeletal traction was applied through both heels and the distal left femur by 3 Kirschner wires.

She regained consciousness after 3 days and traction was maintained for 80 days until consolidation of the tibial fractures had occurred. At this time bone had been laid down in the proximal femur; by 4 months a piece of diaphysis about 10 cm long had formed. There had been no regeneration of the femoral head and neck after 8 months (Fig. 2).

Weight-bearing in a plaster cast was allowed at 4 months and with 2 sticks at 5 months.

At follow up at the 8th month the child could walk without support or pain, although she limped with a Trendelenburg gait. The left leg was 2 cm shorter than the right and was externally rotated 15°.

Discussion

The energy created by the trauma must have been exceptionally high because it produced a fracture of the shaft, dislocation of the femoral head, a complete tear of the capsule and the ligamentum



Fig. 1. Radiograph after the accident showing absence of the proximal femur with only a thin shell of the greater trochanter remaining

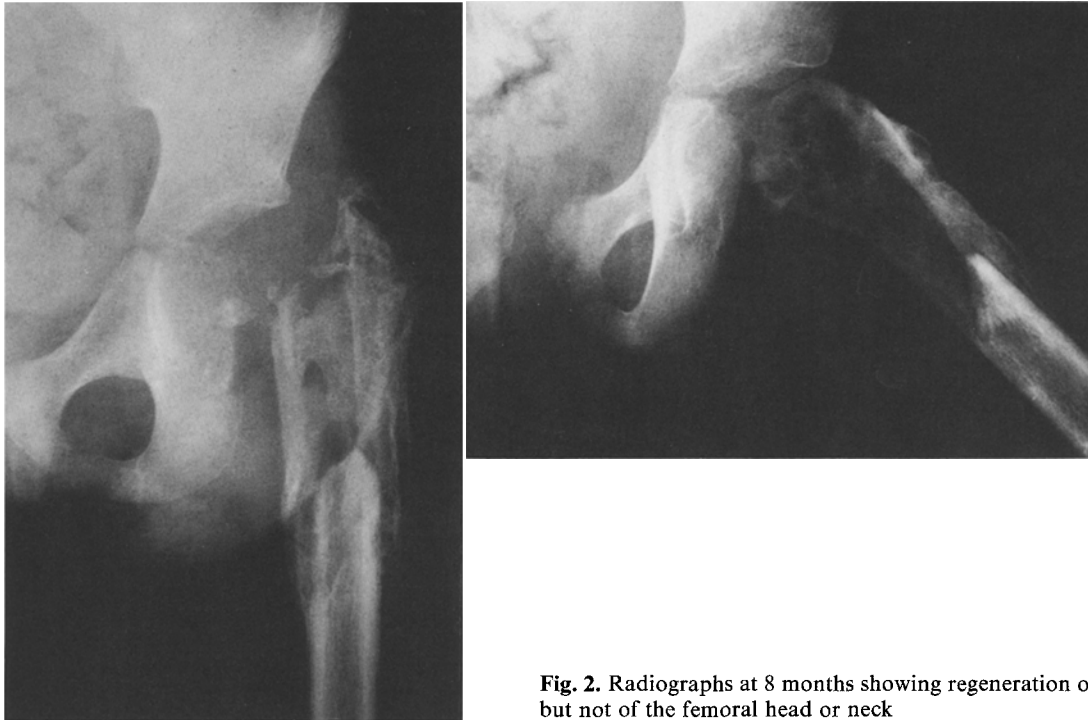


Fig. 2. Radiographs at 8 months showing regeneration of the proximal shaft, but not of the femoral head or neck

teres, and detachment of the periosteum, as well as laceration of the soft tissues and skin (Fig. 3). The proximal shaft regenerated, which suggests that the germinal layer of the periosteum was left intact; in this respect the fracture reproduced the pattern of a benign subperiosteal fracture of childhood where there is mechanical failure of the bone, but not the periosteum.

Reposition and osteosynthesis of the detached piece would have been a more straightforward method of treatment. However, skeletal traction allowed regeneration of the lost segment with only slight loss of length and a fair functional recovery. Further management will have to deal with the possibility of further leg length discrepancy.

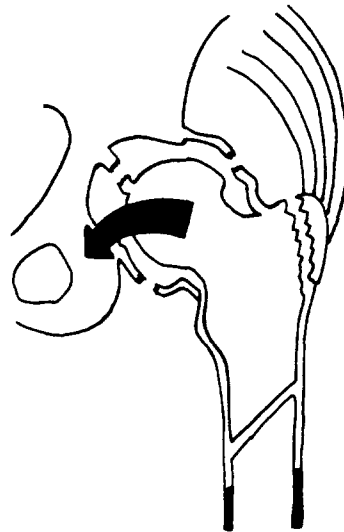


Fig. 3. Diagram showing the extent of the injury and the structures damaged