

ANTERIOR FRACTURE-DISLOCATION OF THE HIP

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Fracture-dislocation of the femoral head is a complex lesion that requires surgical treatment in order to restore the sphericity of the femoral head and the congruity of the joint. Large defects involving the weight-bearing zone are usually treated by joint replacement. The authors propose a surgical technique with autologous bone graft from the trochanteric zone placed in the defect and attached by two screws.

Keywords : fracture-dislocation ; hip ; femoral head ; surgical treatment.

Mots-clés : fracture-luxation ; hanche ; tête fémorale ; traitement chirurgical.

INTRODUCTION

Dislocation of the hip is a pathology frequently associated with high-energy trauma. This high level of energy is required to achieve the loss of congruity of a joint contained within a strong capsule-ligamentary structure.

When a dislocation takes place, an associated femoral head fracture is relatively infrequent. Posterior dislocation of the head or a retroacetabular site constitute 85% of all hip dislocations. Seven percent are accompanied by a fracture of any sort of the femoral head.

There are two types of dislocation : the obturator and the iliac types. The first type occurs when the hip undergoes trauma while in a flexed, abducted and externally rotated position. The second one takes place when the hip undergoes trauma while in an externally rotated position (1). These account for 10-18% of all hip dislocations (2, 3). Classified as pubic and obturator types, they may be accompanied by a fracture of the

femoral head due either to compression at the anterolateral margin of the obturator foramen, or to the shearing of the anterosuperior rim. A fracture nearly always occurs when the femoral head hits the interior lip of the acetabulum (2).

In any case, the injury requires prompt reduction and treatment to obtain a congruous joint and an adequate weight-bearing surface. In those cases of anterior fracture dislocation due to impact in which the step created requires surgical treatment, the defect can only be resolved by arthroplasty (4).

CASE REPORT

A 22-year-old male had a car accident resulting in anterior dislocation of the right hip, with a fracture of the anterosuperior part of the femoral head, a Brumback's type 4A fracture (fig. 1). The dislocation was reduced without any difficulty under general anesthesia by flexion, abduction and internal rotation within the first 2 hours after the accident. An x ray showed that the true size of the injury of the femoral head was 1 cm deep. A surgical procedure using a posterior approach to the hip revealed an impact injury. It affected the entire weight-bearing site of the anterosuperior region of the femoral head. An attempt at leveling the step by percussion from the anteroinferior area of the femoral neck was not successful, and a graft procedure was undertaken. The graft was taken from the greater trochanter covered by soft tissue.

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Fig. 1. Fracture of the femoral head after reduction of the dislocation.

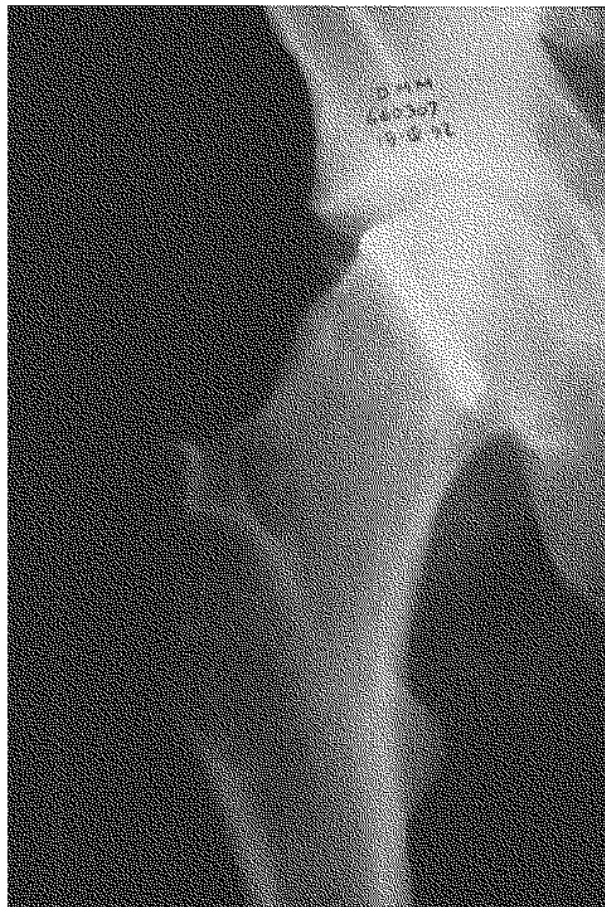


Fig. 2. -- Result of the reconstruction 2 years later.

To reshape the graft, the inner part was subsided by microfractures that did not affect the cortical surface. Once the graft was completed and the head form imitated, it was fixed by two spongy, small fragment AO-ASIF screws (fig. 2).

After the surgical procedure, skeletal traction was used for a 3-week period, followed by a period of 4 months without weight-bearing. Weight-bearing was initiated progressively, and the patient resumed work 8 months later.

At the time of follow-up, 2 years later, he showed no symptoms, flexion was limited to 100° and external rotation to 40°, there was no limp and the x ray showed neither necrotic nor degenerative arthritic changes, so the results can be classified as good, according to the method of Epstein.

DISCUSSION

Although anterior fracture dislocations of the hip have traditionally been considered as having a good prognosis (5), the largest series (2, 3, 6, 7, 8) in fact have found an unfortunate evolution in one-third of the cases. Clinical symptoms and roentgenographic signs of coxarthrosis have appeared 2 years after the initial injury, probably because of failure to diagnose injuries up to 4 mm deep from an impact missed on the initial x rays (9). The first report of a fracture dislocation by indentation of the femoral head dates back to 1938 (10). Due to the lack of a large number of cases, it could not be classified according to Pipkin's classification. We have followed Brumback's method in which he establishes a type IV fracture

that includes the possibility of an anterior dislocation with a fracture by indentation of the antero-superior region of the femoral head (11).

Problems arise in the treatment of these fractures, as they are more frequent in young people who cannot undergo reconstruction of an injury occupying 50% or more of the joint weight-bearing site. Such patients can only undergo replacement of the hip (4).

In our case we favor a reconstruction based on a graft imitating the form of the femoral head, taken from the trochanteric region and shaped by means of inner microfractures to adapt it to the round shape. Although the anatomic result may be less good, we have at least delayed arthroplastic treatment. At this time, 2 years after surgery, no necrotic or degenerative arthritic changes have appeared, and the functional state is minimally limited with no clinical symptoms.

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SAMENVATTING

P. ZAMORA-NAVAS, F. COLLADO TORRES, J. ROSÓN MÉNDEZ-TRELLES, J. CARPIO ELÍAS.
Voorste fractuur-luxatie van de heup.

De fractuur-luxatie van de femurkop is een complex letsel, waarvoor een chirurgische behandeling aangevoerd is om de sphericiteit van de kop te herstellen en een correcte gewrichtscongruentie te bekomen. Belangrijke substantieverliezen van het dragend gedeelte van de femurkop worden meestal behandeld door arthroplastiek. De auteurs beschrijven een originele chirurgische techniek met autologe botenten, gepreleveerd op de trochantere streek, geplaatst in het substantieverlies en aldaar gefixeerd met 2 schroeven.

RÉSUMÉ

P. ZAMORA-NAVAS, F. COLLADO TORRES, J. ROSÓN MÉNDEZ-TRELLES, J. CARPIO ELÍAS.
Fracture-luxation antérieure de la hanche.

La fracture-luxation de la tête fémorale est une lésion complexe qui nécessite un traitement chirurgical visant à restituer à la tête sa sphéricité et à obtenir une congruence articulaire correcte. Les importantes pertes de substances de la zone portante sont en général traitées par remplacement articulaire. Les auteurs proposent une technique chirurgicale utilisant des greffons autologues, prélevés à la région trochantérienne, placés dans la perte de substance et fixés par 2 vis.