

Inveterate traumatic dislocation of the hip: a case report

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Abstract. The Authors report a case of inveterate dislocation of the left hip in a male patient of 23 years arrived at the "Centre de Reeducation Motrice" of Madagascar. The patient had an escape limping, important low back pain and limb dysmetria. He was treated with a hip arthrodesis considering the risks of infection and the economic problems of total prosthesis. We present a case of disappearance of pain and resumption of working activity. (www.actabiomedica.it)

Key words: Hip, arthrodesis, inveterate dislocation

Introduction

Dislocation is a loss of anatomic relationships of articular heads. Hip dislocation is caused by a high-energy trauma and is often associated with acetabulum fractures. This condition requires urgent treatment. If the reduction is not performed, the following treatment depends on the anatomical conditions of the articular head and is exclusively surgical (1, 2). In industrialized Countries the pure inveterate traumatic dislocation of the hip is rare and the treatment consists in reduction of the fracture and implant of total prosthesis. In developing Countries this condition is more common and the arthrodesis may be the treatment of choice for the risk of infection and the cost of the material.

Giannini et Al., Beaulè et Matta, Zeiler (3-5) advise to perform the arthrodesis between 10 and 20 degrees of hip flexion, 0-10 degrees of abduction, external rotation between 0 and 10 degrees and preferably with a difference that is less than 2 cm in limb length. The surgical solution is inexpensive, with disappearance of pain and resumption of the patient's activities. The motility surfaces of the coxo-femoral joint however compromised by a pre-existing condition of inveterate dislocation of the hip is sacrificed.

Case description

RF, a young 23 year old male, came to our observation suffering from pure inveterate dislocation of the left hip following a high-energy trauma that was never treated.

At the medical history the patient reported to have fallen from a tree 7 years before and never been treated. The patient was visibly dimetric with compensatory lumbar scoliosis. This condition was associated with pain that had become important, which was increasing in intensity and no longer tolerated. The patient reported reduced functional capacity and he was no longer able to perform his work. At the radiographic exam, performed in the single anterior projection of the pelvis, dislocated posterior lower initial arthrosis was shown (Fig. 1). The surgical choice was arthrodesis of the hip.

Surgical technique

The patient underwent surgery in supine decubitus with a trans gluteal approach of the hip according to Bauer. After the skin section, under skin and fascia lata osteotomy of the great trochanter to access and re-



Figure 1. Preoperative X-ray

duce the femoral head dislocation was performed. Cruentation of the femoral head with the removal of the remaining articular cartilage and its acetabular component was carried out. A fixation with temporary Kirschner wires in functional position with 20 degrees of flexion implants introduced by a hand drill was also performed (Fig. 2). A final fixation with a partially threaded screw with a diameter of 7.5 was performed.

After testing the stability of fixation the great trochanter was reinstated with a screw. Drainage, haemostasis and suture for the plans was also performed. On the operating table a plaster cast immobilization of the pelvis malleolar was packed. X-rays,



Figure 2. Reduction of luxation of the hip

performed the following day at another hospital highlighted the mutual contact surfaces of the bone. The plaster cast was renewed after 40 days, for a total of 80 days of gypsum immobilization. The load was given after 80 days, with anti brachial protected and assisted sticks. The follow-up of the patient was performed 2 years later (Fig. 3 and Fig. 4). The radiographic examination showed complete bone fusion, which was accompanied by a subjective condition of disappearance of pain and almost unlimited walking by the patient.

Discussion

In industrialized Countries cases of pure inveterate dislocation are extremely rare since this condition is treated in the emergency room or operating Units of Orthopedics and Traumatology. However in these cases the alternative choice to arthrodesis is total hip prosthesis. In developing countries because of infection problems and the high cost of surgery, arthrode-



Figure 3. Clinical evaluation at 24 months



Figure 4. Radiographic evaluation at 24 months

sis is a choice. The treatment is decisive. Regarding the implementation of this intervention, several techniques are described in the literature (6):

- the intra-articular arthrodesis, in which the joint heads are placed in mutual contact and is performed in an operating room followed by immobilization. This type of surgery was carried out for the first time by Von Vinivater in 1892;
- the extra articular arthrodesis, obtained through a bony bridge para or extra articular proposed by Maragliano in 1913 and subsequently amended by Hass (arthrodesis with the great trochanter), by Delitala (arthrodesis a trench: cleaning of articular head section of the great trochanter which is rotated 180 ° on the vertical axis and wedged between the eyelash cotiloides and femoral head), and by Brittain in 1941 (bone graft inserted on one side and the other ischio between the heads of a sub trochanteric osteotomy with medial displacement of the head of the distal femur);
- trans-articular arthrodesis screw inserted from the proximal epiphysis without cruentation of the articular heads proposed by Putti in 1937.

The principle that was used by Watson Jones in 1934 was a Smith Petersen nail. Putti introduced a nail at the Rizzoli Institute that was partially thread-

ed and therefore had a greater opportunity for compression.

Mixed arthrodesis consisted in the heads of cruentation articular stabilization with screw or nail and possible extra articular graft.

The main long-term complication of this intervention is pseudoarthrosis of the hip, which is not necessarily associated with pain. The type of treatment that had more guarantees of success was the involvement of arthrodesis mixture. The treatment we chose was the arthrodesis mixture. In order to achieve a good result it is important to set the arthrodesis in a good position permitting a hip flexion of 10-20 degrees, 0-10 degrees of adduction and 10-20 degrees of extrarotation for a greater fluidity of movement of other joints (3).

The fact remains that the arthrodesis is a definitive treatment and young people can avoid re-prostheticization. The resulting functional overload predominantly occurs on the lumbar spine, the contralateral hip and ipsilateral knee with subsequent onset of arthritis (3, 7-9). The result obtained in this patient based on the impossibility of treatment is satisfactory and confirms our therapeutic choice.

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