Anterior Hip Fracture Dislocation with Intrapelvic Retention of the Femoral Head and Ureter Fistula

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What to Learn from this Article?

Management and Decision Making in a Complex Situation.

Abstract

Introduction: The anterior dislocation of the hip represents only a small percentage of all hip dislocations: 85% are posterior. Most commonly associated with this dislocation is a fracture of the femoral head and, in rare cases, a femoral neck fracture. We have found in literature no report of an anterior dislocation of the hip associated with femoral neck fracture, pelvic retention of the head and ureteral fistula. We report such a case of a 68 year old male.

Case Report: A 68 year old male was presented to our attention, following a severe injury of the hip when falling from a high bridge, with severe pain in the hip and a clinical aspect of femoral neck fracture. The X-ray confirmed the femoral neck fracture but following an anterior dislocation with the head retained into the pelvis. The patient also had hematuria. An Austin Moore prosthesis was implanted for the femoral neck fracture and the head was extracted by the urologist by a new abdominal incision. Urological evaluation revealed a fistula of the ureter, treated by an internal drainage for three months. One month later the Moore prosthesis was extracted and the patient had a Girldestone hip for 5 months. Revision with a Muller cemented prosthesis had a normal evolution.

Conclusion: The anterior fracture dislocation of the hip with pelvic retention of the femoral head and ureteral fistula is a rare condition resulting from high energy trauma. A multidisciplinary team is necessary to diagnose and treat fracture and soft tissue lesions. Early diagnosis and treatment is necessary to avoid septic complications.

Keywords: Hip dislocation, anterior, femoral neck fracture, ureteral fistula, adult, surgical treatment.

Introduction

Fracture-dislocation of the hip is a complex lesion frequently associated with high energy trauma which requires surgical treatment in order to restore the head sphericity, the anatomy of the pelvis or to repair the associated soft tissue injuries [1]. The authors describe a rare case of an anterior fracture dislocation of the hip with fistula injury of the ureter.

Most often the dislocation of the hip is posterior, in about 85% of the cases. Different types of fracture of the femoral head occur in 7% of dislocations [2]. We found no report of an anterior dislocation with an associated femoral neck fracture; only femoral shaft fracture with posterior dislocated hip was mentioned in some rare cases [5,6]. The Pipkin classification refers to posterior dislocation in association with femoral head

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Author's Photo Gallery

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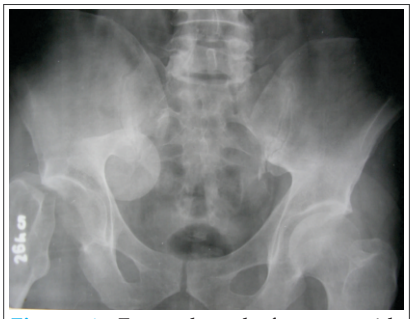

Figure 1: Femoral neck fracture with retention of the femoral head into the pelvis.

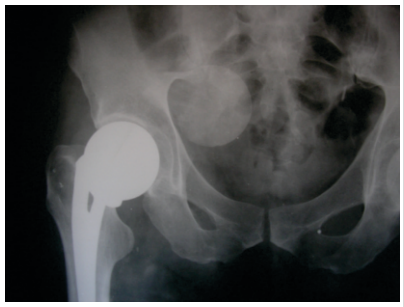

Figure 2: Austin Moore prostheses implanted and the femoral head still in pelvis.

fracture, femoral neck fracture or acetabulum fracture [10].

Another classification divides hip dislocation in: 1. pure hip dislocation; 2. dislocation with fracture of the femoral head; 3. dislocation with fracture of the acetabulum [2, 3, 4]. Based on the previous classifications, the case we have presented cannot be included in Pipkin [10] types because the dislocation is not posterior: anterior dislocation with fracture of the femoral neck.

Anterior dislocation of the hip is uncommon and has three types: pubic (iliac), obturator and perineal (as described by Thomson. In the Thomson case the femoral head is displaced into the scrotum [3]. The femoral vessels and nerve may be injured because of their anterior relationship with the hip [3]. In our case the displaced femoral head has injured the ureter. The fracture is subsequent to the dislocation and was caused by the continuing bending force of the femoral neck on the acetabular rim [2,5]

Like fracture dislocation of the shoulder, this type of injury requires prompt surgical treatment in order to extract the femoral head damaging surrounding soft tissues, to reconstruct the hip joint and to repair associated soft tissue injuries. These goals can be achieved only in a multidisciplinary team.

Case Report

A 68 year old male patient was admitted 48 hours after he suffered a severe hip injury when falling from a bridge. The initial Rx-ray at admission displayed a femoral neck fracture with dislocation of the femoral head into the pelvis (Fig.1). The patient also presented macroscopic and laboratory confirmed hematuria. A CT scan was not available at that time, but because of the hematuria we suspected an anterior dislocation of the femoral head. A Foley catheter was introduced into the urinary balder and antibiotics were administrated. Surgery was performed next day in lateral approach of the hip with anterior capsulotomy. The femoral head was not found into the hip but in the pelvis and could not be extracted but only touched by finger through a laceration between the anterior acetabular rim and the decollated labrum, creating a dislocation space similar to the anterior dislocation or the shoulder. However a 50 mm Austin Moore prosthesis was implanted and after the surgery the patient had the femoral head replaced and the fractured femoral head retained as o loose fragment into the pelvis (Fig.2). The patient was prepared for the next surgery and two days later the urologist extracted the femoral head by a new abdominal approach Gibson with retroperitoneal dissection of the common iliac vessels. The head was placed on the iliopsoas muscle and under the iliac common vessels, and during the procedure no visible injury of the ureter, balder or iliac vessels was found. Soon after removing the abdominal wound drainage the patient experienced pain in the hip, lost mobility and swelling occurred at the hip wound. Several punctures of the hip extracted a large amount of clear liquid which was investigated and was found to have density and elements like urine. A drainage tube was reinserted into the hip wound and the patient underwent repeated urological evaluation by urography and endoscopic techniques.A fistula injury of the ipsilateral ureter was found and an internal drainage of the ureter was introduced and left in situ for three months. The Moore prosthesis was extracted, the hip was debrided and irrigated with saline solution and gentamicin. The hip wound healed and the patient had a Girdlestone hip for about 5 months. The hip was revised with a total cemented Muller prosthesis, which resulted in a normal evolution of the wound and rehabilitation.

Discussion

The anterior dislocation of the hip is uncommon and, according to Epstein, represents 12% of traumatic hip dislocations [2]. In this kind of dislocation the femoral vessel and nerve may be injured but, as we describe in this case report, the ureter may be injured as well. This type of dislocation usually occurs in automobile accidents or after a severe falling accident (as it happened to the case report patient) and the mechanism of injury is forced abduction [3, 4, 7]. The anterior fracture dislocation with defects of the femoral head has an unfortunate evolution in one third of the cases: roentgenographic and clinical signs of degenerative arthritis occur within two years after injury [1]. The anterior hip dislocation with fracture of the femoral neck we have reported on had actually the same surgical indication as pure femoral neck fracture but in a multidisciplinary team which will replace the hip, extract the dislocated femoral head from pelvis and repair the soft tissue damage. In our case the urologist extracted the femoral head and inserted an internal drainage of the ureter. It was only subsequent to that procedure that the wound healed and a second prosthesis could later be implanted.

The principles of treatment we followed on in this case was 1. to extract the femoral head from pelvis and repair the injury of the ureter ; 2. treat the hip infection; 3. reconstruct the hip.

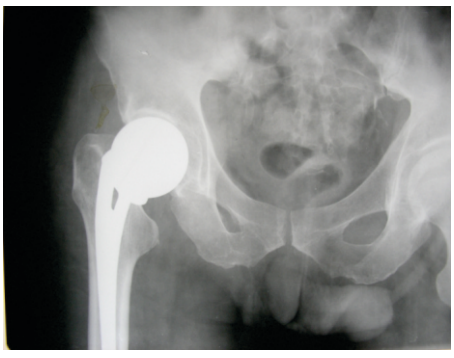

Figure 3: The femoral head extracted by a new abdominal approach.

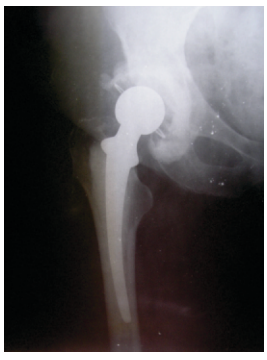

Figure 4: Revision with a total Muller cemented prostheses after five month.

The one week interval between the Moore replacement of the hip and the repair the injury of the ureter has provoked an infection of the hip because the presence of the urine into the joint. Extracting the femoral head from pelvis had to be completed by an internal drainage of the ureter. Most difficult in this case was to diagnose the ureter injury because during the surgical procedure of extracting the femoral head from pelvis no damage of the vessels or other structures was observed. Once the ureter repaired the Moore prostheses was extracted and the hip treated following the principles of treatment for any infected hip [9]. Debridement and irrigation the hip wound with saline solution and gentamicin eradicated the infection. The Girdlestone hip was revised about five month later with a Muller cemented prostheses.

An early diagnosis and treatment of the ureter injury might avoid the hip infection due to presence of the urine into the hip. Extremely attention must be paid in the case of an anterior fracture dislocation of the hip with pelvic retention of the femoral head and hematuria. The urinary tract had to be thoroughly investigated by urography and endoscopic techniques. Any found injury has to be immediately treated in the same time with extraction the femoral head and prior to reconstruction surgery of the hip. This sequences might avoid the septic complication of the femoral neck fracture.

Conclusion

The anterior fracture dislocation of the hip with pelvic retention of the femoral head complicated by ureteral fistula is a case to be mentioned in the literature because of its uncommon and particular complication. Early correct and comprehensive diagnosis is necessary to avoid septic complications.

Clinical Message

Although exceptionally rare, anterior fracture dislocation of the hip with pelvic retention of the femoral head associated with hematuria should be regarded as a serious condition, and early diagnosis and treatment is necessary.

References

1. P.Zamora–Navalis F. Collado.Torres J.R.Mendez-Trelles. J Carpio. Elias Anterior fracture dislocation of the hip. Acta Orthopedica Belgica vol 59-4-1993.
2. Epstein H C. Traumatic disorders of the hip. Clin Othop. 1973, 92, 116-142.
3. Campbell's Operative Orthopaedics, Eight edition, p.946-950 and 1353-1355, 1992.
4. Fractures Charles A. Rokwood jr,MD and David P. Green, Lippincot Company 1975. p1031-1044.
5. Stewart m. J. Management of fractures of femur complicated by dislocation of the hip. Orthop. Clin.North Amer. 1974,5 793.
6. Clegg T-E,Roberts CS, Greene JW,Prather BA. Hip dislocation epidemiology, treatment, and outcomes. Injury 2010;41;32-34.
7. Larson C.B.Fracture dislocation of the hip. Clin. Ortop.1973,92,147-154.
8. Amilhood S. Anterior dislocation of the hip. Injury. 1975,7,107-110.
9. Robert H. Fitzgerald, Jr, MD .Infected total hip arthroplasty :diagnosis and treatment. American Acad. Orthopedic Surgeons vol 3 No,5 September/October 1995. 249-262.
10. Rockwood &Green'Fractures in Adults 6th Edition.2006 Lippincott Williams & Wikins Chapter 43 . Paul Torneta III.

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