



## Sports accident in children: a rare cause of traumatic hip dislocation

R.El Zanati<sup>1</sup>, H.Aitbenali<sup>1</sup>, M.Boufettal<sup>1</sup>, A.Berrichi<sup>2</sup>, M.Irrazi<sup>2</sup>, A.Rhanim<sup>1</sup>, M.Mahfoud<sup>1</sup>, M.S.Berrada<sup>1</sup>, C.Cuny<sup>2</sup> and M.El Yaacoubi<sup>1</sup>

<sup>1</sup>Service of Trauma and Orthopaedic Surgery, CHU Rabat MORROCO.

<sup>2</sup>Service of Trauma and Orthopaedic Surgery, CHR METZ FRANCE.

### ARTICLE INFO

#### Article history:

Received: 23 November 2013;

Received in revised form:

11 January 2015;

Accepted: 26 January 2015;

#### Keywords

Traumatic hip,  
Disease,  
Radiological control,  
Neck.

### ABSTRACT

Traumatic hip dislocation in children is a rare disease. We report the case of a child aged 11 years old male who presented a posterior pure dislocation of the left hip after a sports accident. A reduction in emergency was performed with a perfect radiological control. Subsequent treatment consisted of pulling stuck for 45 days. The child was seen with a decline of 1 year. Hip was considered normal. This entity is exceptional in small children. It may be secondary to minimal trauma as coxa valga or excessive femoral neck anteversion or ligamentous laxity may explain a predisposition to this dislocation. His prognosis is very good if urgent care is performed.

© 2015 Elixir All rights reserved

### Introduction

Traumatic hip dislocation of children is a rare disease. It represents only 5% of hip dislocation all ages [1-2]. Its management is not well known or rather little codified.

In this work we present a case of traumatic dislocation of the hip of child after a sports accident and clarify the epidemiological, therapeutic and long-term development through a review of the literature.

#### Case report:

We report the case of a male child aged 11 without significant history suffered a fall from his horse after a horse riding competition reception on the left lower limb. Upon arrival at the hospital an hour after the injury, the child was conscious stable hemodynamically. The member was in slight flexion, adduction without external rotation with a total functional impairment. The inguinal folds were asymmetric. The pulses were present and normal neurological examination.

Radiological evaluation revealed the presence of a pure posterior dislocation of the left hip (Figure 1). The child was immediately admitted to a reduction in dislocation under general anesthesia with a period of four hours from the initial trauma. The radiograph (Figure 2) was satisfactory with a centered hip, regular spacing that is not suspect interposition of soft tissue periarticular confirmed by computed tomography (Figure 3).

Subsequent treatment consisted of pulling stuck for 45 days.

The patient was reviewed at a mean of twelve months, his hip was considered a normal clinical examination with no pain, walking and normal mobility noted as the beginning of the resumption of sporting activity. X-rays showed no abnormalities of the femoral head and the acetabulum of the joint space.

#### Discussion

Traumatic hip dislocation usually occurs in children after walking age with no age predilection. John P and all reported a dislocation in a girl of two years and two months. [15] Despite its rarity, it is important to consider before a painful hip with inability to walk in a young child.

The mechanism is usually an axial load against a hip flexion and adduction, but the child is younger than the mechanism is less violent. [15]

Unlike congenital dislocation of the hip, the male predominance is clear in most studies [8,9], it can be explained by the greater exposure of males to trauma. Germaneau et al. [10] have highlighted coxometric anomalies considered predisposing factors, including a femoral valgus, an opening of the acetabular angle, a decrease of the outer cover of the femoral head and a decrease in anteversion acetabular. The main predisposing factor used is the laxity, the capsuloligamentous fragility, usually at low ages [6,8] as the predominant cartilaginous structure of the acetabulum [5].

Increase with age. Most authors are reducing the dislocation under general anesthesia [6,12], others under simple sedation [2,7].

After the reduction, the slightest suspicion of a widening of the joint space is suspect capsuloligamentous interposition or osteochondral fragment and to move towards the application of computed tomography [6]. A radiograph of the pelvis is sufficient if it is normal [1].

An asset is recommended after reduction, to reduce pain, allows the absorption of hemarthrosis and periarticular soft tissue healing. There is no consensus in the literature regarding the method or downtime [2,13].

Complications of traumatic hip dislocation in children are rare, compared to the adult [5]. These complications are also varies with age. In small children, the most frequently encountered complications are the interposition of soft parts, which may require arthrotomy for extrication [9] and coxa magna by reactive hyperemia in soft tissue lesions [5,6]. This coxa magna, often moderate, has a radiological translation on clinical impact and tends to decrease during growth. In older children, complications are more frequent, the most formidable is osteonecrosis of the femoral head [5,6]. According to Mehlman et al. [7], this complication occurs in 12% of children and signs of necrosis become evident radiologically between

two and 12 months, with a statistically significant effect of the delay reduction if more than six hours after trauma. Other complications include the imprisonment of intra-articular bone fragments, the hip instability, heterotopic ossification, post-traumatic premature fusion of the growth cartilage and osteoarthritis [1-3,7,12,14]. In general, traumatic hip dislocation in children is a better prognosis compared to that of adults [2,5].



**Figure 1 : Anteroposterior view of the pelvis on presentation showing a superior dislocation of the left hip.**



**Figure 2 : Post-operative fluoroscopy showing the antero-posterior pelvis and a concentric reduction of the right hip.**



**Figure 3: Regular spacing confirmed by computed tomography**

## Conclusion

Traumatic hip dislocation of children differ from adults in their scarcity, scarcity associated fractures, ease of their reduction and better prognosis.

## References

- [1] Hamilton PR, Broughton NS. Traumatic hip dislocation in childhood. *J Pediatr Orthop* 1998;18:691—4.
- [2] Salisbury RD, Eastwood DM. Traumatic dislocation of the hip in children. *Clin Orthop* 2000;377:106—11.
- [3] Vedat S, Yildirim TC. Bilateral traumatic hip dislocation in a child: a case report and review of the literature. *J Trauma* 1999; 46:500—4.
- [4] Rigault P, Hannouche D, Judet J. Luxations traumatiques de la hanche et fractures du cotyle chez l'enfant. *Rev Chir Orthop* 1968; 54:361—82.
- [5] Kutty S, Thornes B, Curtin WA, Gilmore MFX. Traumatic posterior dislocation of the hip in children. *Pediatr Emerg Care* 2001; 17:32—5.
- [6] Vialle R, Odent T, Pannier S, Pauthier F, Laumonier F, Glorion C. Traumatic hip dislocation in childhood. *J Pediatr Orthop* 2005;25:138—44.
- [7] Mehlman CT, Hubbard GW, Crawford AH, Roy DR, Wall EJ. Traumatic hip dislocation in children. *Clin Orthop* 2000;376: 68—79.
- [8] Fischer L, Venouil J, Baulieux J. Luxations traumatiques de la hanche chez l'enfant. *Cah Med Lyon* 1971;47: 325—33.
- [9] Offierski CM. Traumatic dislocation of the hip in children. *J Bone Joint Surg* 1981;63B:194—7.
- [10] Germaneau J, Vital JM, Bucco P, et al. Luxations traumatiques de la hanche de l'enfant de moins de six ans. À propos de dix observations. *Chir Pediatr* 1980;21:239—44.
- [11] Barquet A. Traumatic hip dislocations in children. *Acta Orthop Scand* 1997; 50:549—53.
- [12] Touzet P. Traumatismes du bassin et de la hanche chez l'enfant. Conférences d'enseignement de la Sofcot. In: Cahiers d'enseignement de la Sofcot. Expansion scientifique franc, aise, 1994, Paris, no 46, p. 121—136.
- [13] Herrera-Soto JA, Price CT. Traumatic hip dislocations in children and adolescents: pitfalls and complications. *J Am Acad Orthop Surg* 2009;17:15—21.
- [14] TRAUMATIC PEDIATRIC HIP DISLOCATION IN A TODDLER John P. Haverstock, MD,\* David W. Sanders, MD,\* Deborah L. Bartley, MD,\* and Rodrick K. Lim, MD† *The Journal of Emergency Medicine*, Vol. 45, No. 1, pp. 91—94, 2013