

Bilateral Traumatic Symmetric Posterior Hip Dislocation in a Teenager

Jean Baptiste Yaokreh*, Yapo Guy Serges Kouamé, Ossenu Ouattara and Rufin Dick

Pediatric Surgery Unit at Yopougon Teaching Hospital, University of Felix Houphouët Boigny, Abidjan, Côte d'Ivoire

Abstract

Traumatic hip dislocation is rare in children, accounting for 2 to 5% of all traumatic dislocations. Bilateral hip dislocations are unusual. There is no consensus on the protocol after reduction. We report the case of a 14-year-old girl sustaining a bilateral posterior hip dislocation after a road traffic accident in a limited resource setting. The concentric reduction was performed 22 hours after the admission. Post-reduction radiograph showed an intra-articular fragment in the left hip and CT scan prescribed has not been performed. The patient was kept on bilateral skin traction for 3 weeks. At the end of the period of traction, bilateral hip spica cast was applied for 3 weeks. At 4 years 11 months follow-up the hips were pain-free. CT scan showed osteoarthritis secondary to AVN of the femoral head on the right hip.

Keywords: Children; Hip; Traumatic dislocation

Introduction

Traumatic hip dislocation (THD) is rare in children, accounting for 2 to 5% of all traumatic dislocations [1-3]. Bilateral posterior dislocations are unusual [2,4]. However literature is replete with case reports and cases series dealing with the aetiology, mechanism, classification, treatment, and prognosis of THD [1-3,5,6]. All authors agree that reduction should be performed as soon as possible preferably within 6 hours following the injury to minimise the risk of avascular necrosis (AVN) and osteoarthritis. But there is no consensus on the protocol after reduction [1,3,5]. We report the case of a 14-year-old girl sustaining a bilateral posterior hip dislocation. The reduction was performed 22 hours after the admission. We were mainly concerned about the regimen of management after the reduction and the prognosis at follow-up of this condition.

Case Report

A 14-year-old girl was admitted to our orthopaedic emergency unit 3 hours after being involved in a road traffic accident. She was seated behind the driver. The car went out of control after a blast of one tyre and had a crash. On arrival, she was conscious. The clinical examination revealed a deformity of both hips in extension, adduction and internal rotation. The femoral heads were palpated in the gluteal regions. There was no neurological deficit and the distal pulses were palpable.

She had no associated injury. X-rays of the pelvis showed symmetric posterior dislocation of the hips (Figure 1). Closed reduction was achieved 22 hours after the admission under general anaesthesia using Allis maneuver. After reduction, both hips were stable. The patient was kept on bilateral skin traction for 3 weeks with a traction weight corresponding to 10% of her body weight. Post-reduction radiograph (Figure 2) showed concentrically reduced hips with an intra-articular fragment in the left hip. CT scan prescribed has not been performed. At the end of the period of traction, bilateral hip spica cast was applied for 3 weeks. Then the spica cast was removed.

She complained of pain of the hips. Analgesia was given. Weight-bearing as tolerated was allowed. Three months later, she had a restricted range of motion of hip flexion (95° and 110° respectively at the right and left hip) and internal rotation (20° on both hip). Physiotherapy was performed and full range of motion was regained at 11 months. At 4 years 11 months follow-up the hips were pain-free. CT scan (Figure 3) showed a fusion of the intra-articular fragment with the femoral neck and an heterotopic ossification in the left hip. The right hip was

incongruent with signs of subchondrial cyst formation and a mushroom head, indicating osteoarthritis secondary to AVN of the femoral head.

Discussion

This is the report of a teenager involved in road traffic accident and sustaining a bilateral traumatic symmetric posterior hip dislocation. She was treated in a limited resource setting. There are several findings in this report. The reduction was delayed. Immediate post reduction



Figure 1: Plain radiographs show symmetric posterior hips dislocation.



Figure 2: post reduction X-rays showed concentrically reduction with bony fragment in the left hip (white arrow).

***Corresponding author:** Jean Baptiste Yaokreh, Pediatric surgery unit at Yopougon Teaching Hospital, University of Felix Houphouët Boigny, 21 P.O.Box 632 Abidjan 21, Côte d'Ivoire, Tel: 0022558572373; E-mail: enanbladette@yahoo.fr

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Figure 3: CT scan show heterotopic ossification in both hips, bony fragment (white arrow) fusion with the left femoral neck and osteoarthritis in the right hip at 4 years and 11 months later.

CT scan was necessary but was not available. The management after the reduction was difficult. Osteoarthritis and AVN of the femoral head occurred in one hip. Delay while performing reduction was related to logistic reasons. One theatre was dedicated to emergencies. This was used to cater both trauma and other emergencies. CT scan is relatively expensive. Most patients have no insurance. Patients or relatives have to pay directly for their care. CT scan after reduction was not performed. Thus the problem of the origin of the intra-articular fragment of the left hip was unsolved. Conservative treatment was applied. There is no uniformity of opinion about the type of immobilisation and its duration after the reduction. In general after the reduction, traction or immobilisation of 6 weeks followed by a partial weight-bearing is the regimen used in patient with unilateral dislocation [5]. Partial weight-bearing is difficult to apply to patients with bilateral dislocations. Garg et al. [2] used immobilisation with abduction splint. The splint was removed after 2 weeks and weight bearing was allowed when the patient was able to perform active straight leg raising. Khoo [6] had performed a skin traction for one week. Then the patient was discharged from the hospital with advice not to bear weight on the affected limb for 6 weeks. Endo et al. [4] applied a trunk cast for 3 weeks followed by indirect traction for 3 weeks. Whatever the time spent in traction, the final

outcome is not altered [7]. Osteoarthritis and AVN occurred in one hip in our patient. Contributing factors for these complications were encountered. We can enumerate advanced skeletal maturity, delayed time to reduction, and severity of the injury.

Conclusion

Bilateral traumatic hip dislocation in a teenager is unusual. Management of hip dislocation was difficult in developing countries where the medical facilities are limited. The improved working conditions are needed to decrease the complications. A longer follow-up is necessary as far as skeletal maturity.

Conflicts of Interest

The authors have no conflicts of interest to disclosure.

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