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An Unusual Traumatic Presentation: Luxatio Erecta Humeri and Concomitant Pure Posterior Hip Dislocation

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ABSTRACT

The Luxatio erecta humeri is the inferior dislocation of the glenohumeral joint and the poterior hip dislocation are rare cases in the emergency department.

The association of the two presentations is a rare entity and similar cases are very little found in the literature, hence the purpose of this work.

We report the case of a 35-year-old taxi passenger victim of a public road accident who presented with both luxatio erecta humeri and pure posterior hip dislocation. An orthopaedic surgeon reduced the luxatio erecta humeri and the posterior hip dislocation under procedural anesthesia as soon as the patient's vital signs were stable.

Different concomitant injuries and various injury mechanisms have been described in regard to inferior shoulder dislocation in the literature. However, pure posterior dislocation of the hip as a concomitant distant region injury for luxatio erecta humeri is being described for the first time in this case report.

Some authors suggested that a two-step manoeuver can be easier to practice than a one-step manœuvre, in our specific case, luxatio erecta was easily reduced by a single operator in a single attempt.

Luxatio erecta humeri and posterior hip dislocation are lesions that occur at high energy and complex injuries can accompany them in patients with multiple traumas. A two-step closed reduction can be easily applied by a single operator under procedural anesthesia. hip and shoulder dislocations are extreme emergencies.

Keywords: Dislocation, hip, reduction, shoulder.

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I. Introduction

Lower shoulder dislocation is an entity rarely described in the literature and represents 0.5 % of shoulder dislocations, it can occur as a result of several direct or indirect mechanisms, but the majority are due to falling accidents [1]-[3]. The most common mechanism is direct loading force on a fully abducted arm, the second mechanism also found is an indirect

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sudden forceful hyperabduction of an abducted upper extremity [2]-[3]. Our patient had also a concomitant pure hip dislocation.

The clinical diagnosis is easy, confirmed by the X-ray. Care is extremely urgent to prevent possible complications.

II. Case Report

A 35-year-old male was admitted after a road traffic accident, he was presented with his left upper extremity abducted at the shoulder, flexed at the elbow, pronated at the forearm, and with his hand behind his head associated to a lower ipsilateral limb adducted, flexed, internally rotated and shortened (Fig. 1).

The car made several laps before stopping. our case is a healthy young patient with no particular pathological history after the patient's anamnesis. the questioning did not reveal the mechanism of his injury as he was sleeping while the accident, but he reported the death of the driver at the scene of the accident,

After his X-ray, the diagnosis of left luxatio erecta humeri associated with greater tuberosity fracture (Fig. 2) and ipsilateral pure posterior hip dislocation (Fig. 3) was established.

Fig. 1. The clinical appearance of the patient upon admission.

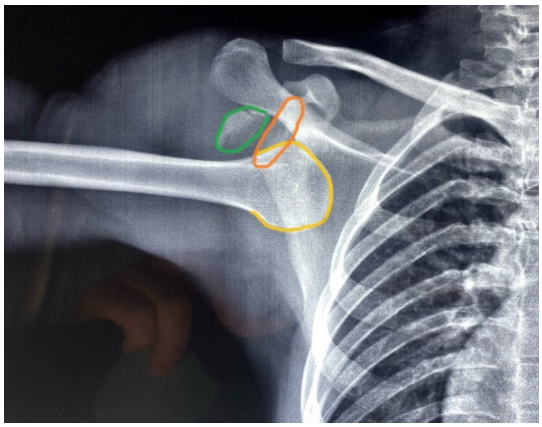

Fig. 2. Anteroposterior view of the left shoulder demonstrating the humeral head inferior to the glenoid fossa associated with greater tuberosity fracture.

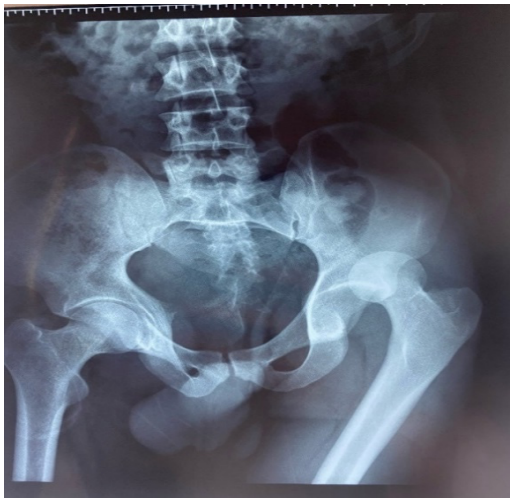

Fig. 3. Anteroposterior view demonstrating a left pure posterior hip dislocation.

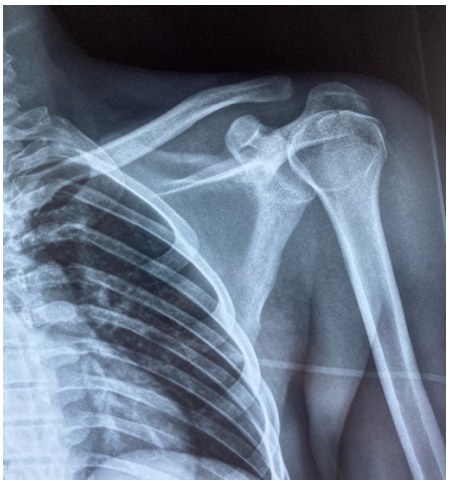

Fig. 4. AP view after reduction of the shoulder dislocation.

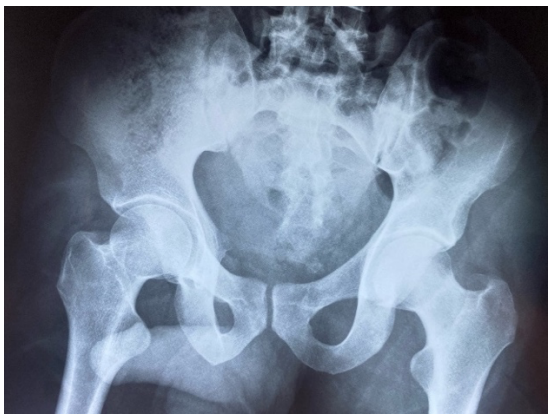

Fig. 5. Pelvic AP view after reduction of the hip dislocation.

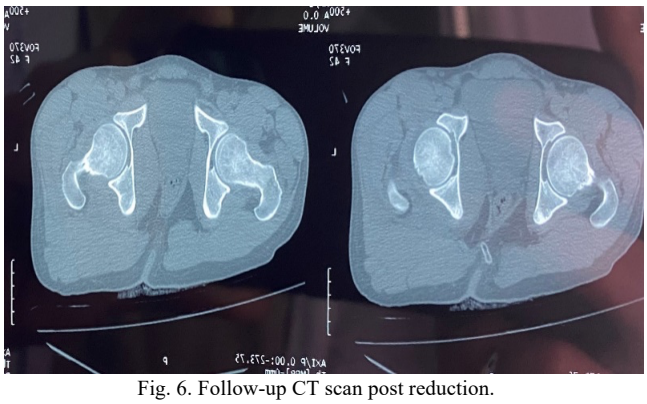

Fig. 6. Follow-up CT scan post reduction.

Once the patient was stabilized, the orthopedic surgeon performed the reduction of the two dislocations under procedural anesthesia.

The shoulder dislocation was done with a two-step close reduction technique (Fig. 4) and immobilized by using a sling for 6 weeks, however for the hip dislocation, an assistant stabilize the pelvis by grasping the bilateral anterior superior iliac spines and applying gentle posterior force, Apply longitudinal distraction of the injury by grasping the patient's distal femur, bringing the femoral head from behind the acetabular rim (Fig. 5), the testing of the shoulder and the Hip was very stable, no method of immobilization was used to prevent recurrent dislocation of the hip.

A follow-up CT scan post-reduction to look for a femoral head fracture and search for intra-articular fragments showed a concentric reduction (Fig. 6).

III. Results

The patient was reevaluated on a codified rhythm of consultation at the 3rd postoperative week, 6th week, 3rd, 6th, and 12th month, the last evaluation showed normal joint mobility and a full range of motion in both joints.

IV. Discussion

Reference [4] described the inferior shoulder dislocation as luxatio erecta humeri for the first time.

57 papers were reviewed by [3] associated with injury mechanism of all cases of luxatio erecta humeri, on the PubMed database, the authors of the article concluded that the mechanism most incriminated in the inferior dislocation of the shoulder is the traumatic fall, However, our patient is the victim of a high-energy public road accident.

The review of the literature shows that several lesions can be associated with luxatio erecta humeri either fractures or fracture around the ipsilateral shoulder, such as avulsion fracture of the greater tuberosity like reported in our study, acromion fracture, clavicular fracture, acromioclavicular dislocation, fracture of the body of the scapula, glenoid fracture, and both forearm bone fractures [4]-[11].

Nevertheless, [12]. reported a pure luxatio erecta humeri associated with posterior hip dislocation and a posterior wall fracture, the reduction was performed in the emergency department easily, and the authors also report good long-term evolution.

Reference [13] reported a bilateral luxatio humeri case, also [9] described the association of shoulder dislocation with bilateral knee dislocation.

Early reduction of inferior shoulder dislocation and hip dislocation is recommended to prevent complications [14], [15]. Closed reduction of either disorder may commonly be applied under procedural anesthesia in the emergency room.

In the literature, the realization of the reduction under sedation or general anesthesia is essential and the guarantor of a successful reduction by external maneuver [1], [2], [5], [11], [15].

For the luxatio erecta humeri two maneuvers of reduction have been described, [16] described a two-step reduction technique as the best and specific method to reduce the inferior shoulder dislocation which includes transforming the inferior dislocation to an anterior dislocation in order to reduce the joint to a suitable anatomic position before the ultimate reduction.

Several authors conclude that the two-step technique remains the best and easiest option realized than the traditional traction-counter traction technique [4]-[11], [14]-[16].

The left upper limb was immobilized in a sling for 6 weeks given the associated fracture, however, [12] immobilized the shoulder for 3 weeks.

While for the pure posterior hip dislocation a discharge of the left lower limb was ordered for 3 months to prevent the recurrence of the dislocation.

The description of the closed treatment of hip dislocations was reported by [17] for the first time in 1870 and several techniques were described then.

Because closed reduction techniques require placing the patient in different positions (eg, prone, supine, lateral decubitus), the choice of technique must reduce the occurrence of post-reduction complications, and therefore the mastery of a few techniques is crucial for the good management of patients when one approach fails.

Reference [18] indicates the practice of hip arthroscopy to remove intra-articular fragments or evaluate intra-articular injuries of cartilage, capsule, and labrum.

Some complications are described after hip dislocation: post-traumatic arthritis up to 20% for simple dislocation, markedly increased for complex dislocation, Femoral head osteonecrosis (5-40%) incidence Increased risk with increased time to reduction, Sciatic nerve injury 8-20% incidence associated with longer time to reduction or recurrent dislocations less than 2%.

V. Conclusion

Luxatio Erecta humeri type dislocation is even rare if associated with pure posterior hip dislocation. Its diagnosis is made clinically and confirmed by standard radiography.

Different region injuries can accompany luxatio erecta humeri in a high-energy trauma as seen in our case, therefore hip and shoulder dislocations are extreme emergencies and the prognosis is better if treated early.

The triad reduction, bandaging, and early rehabilitation guarantee a good evolution.

Author Contributions

All authors have contributed to the conduct of this work. All authors also declare that they have read and approved the final version of the manuscript

Conflict of Interest

Authors declare that they do not have any conflict of interest.

REFERENCES

[1] Yamamoto T, Yoshiya S, Kurosaka M, Nagira K, Nabeshima Y, Luxatio erecta (inferior dislocation of the shoulder): a report of 5 cases and a review of the literature. *The American Journal of Orthopedics*. 2003; 32(12): 601-603.

[2] Elsayed S, Hussein A, Konyves A, Jones D. Bilateral luxatio erecta humeri. *Injury Extra.* 2005; 36(10): 447-449.

[3] Gokku S, Sagtas E, Saylik M, Aydın A, Atmaca H. Luxatio erecta humeri: report of a swimming injury with analysis of the mechanism of the injury and associated injuries in literature. *Journal of Emergencies, Trauma and Shock.* 2015; 8(1): 43-48.

[4] Kumar S, Rourke S, Pillay G. Hands up: a case of bilateral inferior shoulder dislocation. *Emergency Medicine Journal*. 2001; 18(5): 404-405.

[5] Lam A, Shih D. Luxatio erecta complicated by anterior shoulder dislocation during reduction. *Western Journal of Emergency Medicine*. 2010; 11(1).

[6] Ellanti P, Davarinos N, Connolly M, Khan H. Bilateral luxatio erecta humeri with a unilateral brachial plexus injury. *Journal of Emergencies, Trauma and Shock.* 2013; 6(4): 308-310.

[7] Groh G, Wirth M, Rockwood C. Results of treatment of luxatio erecta (inferior shoulder dislocation). *Journal of Shoulder and Elbow Surgery.* 2010; 19(3): 423-426.

[8] Saseendar S, Agarwal D, Patro K, Menon J. Unusual inferior dislocation of the shoulder: reduction by two-step maneuver: a case report. *Journal of Orthopaedic Surgery and Research*. 2009; 4(1).

[9] Foad A, LaPrade F. Bilateral luxatio erecta humeri and bilateral knee dislocations in the same patient. *The American Journal of Orthopedics.* 2007; 36(11): 611-613.

[10] Cift H, Soylemez S, Demiroglu M, Ozkan K, Ozden V, Ozkut T. Rare inferior shoulder dislocation (Luxatio Erecta). *Case Reports in Orthopedics*. 2015.

[11] Mallon J, Bassett H, Oldner R. Luxatio erecta: the inferior glenohumeral dislocation. *Journal of Orthopaedic Trauma.* 1990; 4(1): 19-24.

[12] Demirel M, Anarat B, Ersin M, Ergen A, Fen C. An Unusual Traumatic Presentation: Luxatio Erecta Humeri and Concomitant Hip Dislocation. *Case Reports in Orthopedics*. 2016.

[13] Camarda L, Martorana U, D'Arienzo M. A case of bilateral luxatio erecta. *Journal of Orthopaedics and Traumatology*. 2009; 10(2): 97-99.

[14] Green P. Fractures and dislocation of the shoulder,Heckman, and P. Tornetta, Eds. vol. 1, Lippincott Williams & Wilkins, Philadelphia, Pa, USA; 2010.

[15] Matsumoto K, Ohara A, Yamanaka K, Takigami I, Naganawa T. Luxatio erecta (inferior dislocation of the shoulder): a report of two cases and a review of the literature. *Injury Extra.* 2005; 36(10): 450-453.

[16] Nho J, Dodson C, Bardzik K, Brophy R, Domb B, MacGillivray J, The two-step maneuver for closed reduction of inferior glenohumeral dislocation (luxatio erecta to anterior dislocation to reduction). *Journal of Orthopaedic Trauma*. 2006; 20(5): 354–357.

[17] Dawson-Amoah K, Raszewski J, Duplantier N. Dislocation of the Hip: A Review of Types, Causes, and Treatment. *Ochsner J.* 2018 Fall; 18(3): 242-252.

[18] Bagaria V, Sapre V. Arthroscopic removal of intraarticular fragments following fracture dislocation of the hip. *Indian J Orthop.* 2008; 42(2): 225-227.