

## Dislocation Erecta of the Shoulder (About Twelve Cases)

Mouad Beqqali Hassani\*, Mohammed Kadiri, Driss Jeddi, Mohamed Saleh Berrada

Faculty of Medicine of Rabat, Avenue Mohamed Belarbi El Alaoui B.P.6203 10000, Rabat, Morocco

### Original Research Article

#### \*Corresponding author

Mouad Beqqali Hassani

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**Abstract:** The dislocation erecta humeri (dislocation of the shoulder), a rare variety of lower dislocation of the shoulder, represents 0.5% of the total dislocations described in 1859 by Middeldorp, especially in young subjects. It is remarkable for its spectacular clinical deformity (arm in the air in forced abduction with impossibility of bringing back the elbow to the body). We report 12 cases of dislocation of the erecta type shoulder collected between 2008 and 2017. There are nine men and three middle-aged women (33 years old), the right shoulder was dislocated in eight cases, and the mechanism was direct in four patients. No vasculonervous disturbance was noted. The radiograph of the shoulder in front of the patient showed a lower dislocation of the humeral head and a diaphyseal axis above the horizontal in all our observations. The treatment consisted of a reduction under general anesthesia followed by a Dujarier type bandage for 3 weeks. Dislocation of the erecta type shoulder is the typical form of the inferior dislocation; its mechanism is a fall on the upper limb in large abduction or antepulsion. Clinical diagnosis is easily confirmed by radiograph of the shoulder of the face. The long-term functional prognosis is good.

**Keywords:** dislocation erecta humeri, shoulder, dislocation.

### INTRODUCTION

The dislocation of the shoulder is defined by a loss of total permanent contact of the humeral head with the glenoid cavity of the scapula; it is a therapeutic emergency because of the risk of compression of the axillary vessels and nerves of the brachial plexus.

The vicious attitude differs according to the anatomopathological form: arm in the air, in forced abduction with impossibility of bringing back the elbow to the body is pathognomonic of the dislocation erecta. Our series reports 12 observations collected over a period of 10 years. Our work is to insist on the rarity of erecta dislocation to recall their clinical, therapeutic and evolutionary peculiarities.

### PATIENTS AND METHODS

We conducted a retrospective study collected at the orthopedic traumatology department of the CHU concerning 12 cases of lower dislocation of the shoulder during a period of 10 years between 2008 and 2017.

The patients were divided into nine men aged 21 to 63 and three women aged 39, 44 and 51 respectively. The right shoulder was involved eight times. The circumstances of occurrence were dominated by:

- The accidents of the public road (7cas)
- Head of the height (2cas)
- Sports accidents (2cas)
- Aggression (1cas)

The mechanism was direct in four patients by direct impact on the stump of the shoulder and indirectly by falling on the hand or the elbow in the other cases. The attitude of the shoulder was typical in all patients (forced abduction) marked elevation of the arm next to the head, position of which it is impossible to lower it without causing great pain Figure (1). Vasculonervous disorder has been reported in our patients. The diagnosis is confirmed by the radiograph of the shoulder in front which objectified a sub-glenoid position of the humeral head with a diaphyseal axis above the horizontal Figure (2). Patients have successfully undergone sedation reduction, by pulling the arm in the axis and adduction, followed by immobilization with a Dujarier body-type elbow bandage for 3 weeks, all patients benefit early rehabilitation

### RESULTS

The assessment of our results is based on the UCLA [1] rating scale, which includes an assessment of pain, function, range of motion, strength, and patient satisfaction.

**Eight patients had excellent results**

- Three patients have retained residual pain but with an amplitude that exceeds 140
- one patient had a limited abduction of 90 and slight residual pain
- no case of recurrence noted in our patients



**Fig-1: Typical attitude of the shoulder: arms in the air, forced abduction with impossibility to bring back the elbow to the body**



**Fig-2: Lower dislocation of the humeral head with a diaphyseal axis above the horizontal**

**DISCUSSION**

Described in 1859 by Middeldorpf and Scharm [2, 3], a rare variety of 0.5 dislocation of all dislocations [4]. David and Talbott reported two erecta dislocation mechanisms in 1990[5].

A direct mechanism by application of violent abduction forces on a limb initially in abduction, the acromion acting as a lever for the axis of the humerus. And an indirect mechanism following the application of a heavy overload on a limb in complete abduction

Gagey *et al.* Have described this mechanism about 32 experimental erectal dislocations [6], by a simple elevation external rotation of the limb. The ground of ligamentous hyperlaxity has been reported in several series [7, 8]. Main etiology followed by sports accidents [9, 10].

The clinical presentation of the erecta dislocation is pathognomonic with the arm traumatized in hyper abduction with an impossibility to bring back the elbow to the body.

The physical examination shows an emptiness of the glenoid, a modification of the muscular and bony reliefs with palpation of the humeral head in the axilla [11, 12]. Although the positive diagnosis can be posed clinically a radiological assessment is necessary to confirm dislocation and reveal any associated lesions. The standard radiography of face and a real axillary profile can show the humeral head projected under the lower pole of the glenoid and a humeral diaphysis always above the horizontal [13].

The experimental study of Gagey *et al.*[6] described the different anatomopathological lesions of this form through the MRI results of 24 recurrent dislocations according to this study, lesion of the lower

glenohumeral ligament as well as that of the adjacent bead was constant. Luxation erecta occurred when the Tearing of the inferior glenohumeral ligament was longitudinal. For dislocation to occur experimentally, in seven out of eight cases, disinsertion of the deep face of the rotator cuff was required.

It is a therapeutic emergency, the reduction under general anesthesia must be done as soon as possible, by the most effective reduction techniques reported in the literature and the technique of traction against traction [11,12] which consists of a traction of the arm in the axis of the limb while the aid applies a counter-support on the thorax, the arm then brought back in adduction and a immobilization bend to the body is kept during 3 weeks. a radiological control after reduction is always indicated in order to confirm The success of the reduction and the detection of a possible iatrogenic fracture, rehabilitation is the only guarantee of a satisfactory functional recovery [14], in our series no vasculonervous damage has been reported, yet cases of lesion Axillary artery and brachial plexus were observed because of the proximity of the glenohumeral joint of these two elements. In the Mallon *et al.* [15] series comprising 86 observations, axillary nerve involvement was reported in 60 of the cases and axillary artery involvement in 3 of the cases. Garcia *et al.* Reported a case of bilateral erecta dislocation complicated by thrombosis of the axillary artery imposing anticoagulant treatment [16]. Erecta dislocations are of good prognosis contrary to what has been reported by some authors [17].

## CONCLUSION

Erecta type dislocation is a rare form of glenohumeral dislocation, clinically evident but confirmation by standard radiography. It is a therapeutic emergency because of the major risk of compression stretching of the axillary vasculonervous axes, the reduction triad, bandage and early rehabilitation is the guarantor of a good evolution.

## CONSENT

The patient has given their informed consent for the case to be published.

## COMPETING INTERESTS

The authors declare no competing interest.

## AUTHORS' CONTRIBUTIONS

All authors have read and agreed to the final version of this manuscript and have equally contributed to its content and to the management of the manuscript.

## REFERENCES

1. Amstutz Hc, SEW Hoy A, Clark IC. UCLA anatomic total shoulder arthroplasty. Clin orthop Relat Res.1981 Mar-Apr;1(155):7-20.
2. Jom R, Davids MD, Richard D. luxation erecta humeri. Clin orthop.1990;252:145-9.
3. Nakagawa Y, Umegaki S, Sakurai G, Ozaki J, Nakagaki K. luxation erecta of the shoulder. J shoulder Elbow Surg. 2006;17:110-7.
4. Grate Jr I. Luxatio erecta. A rarely seen, but often missed shoulder dislocation. Am j Emerg Med. 2000;18:317-21.
5. Matsumoto k,ohara A, yamanaka k, Takigami I, Naganawa T. luxatio erecta (inferior dislocation of the shoulder): A report of two cases and review of literature. Injury extra 2005;36:450-3.
6. Gagey O, Gagey N, Boisrenoult P, Hue E, Mazas F. Experimental Study of dislocation of the scapulohumeral joint. Rev chir reparatrice ApparMot.1993;79(1):13-21.
7. Memahon PJ, Tibone JE, Lee TQ. The inferior band of the glenohumeral ligament: biomechanical proprieties. J Shoulder Elbow Surg.1998;7(1):467-7.
8. Wen Dy. Current Concept in the treatment of anterior Shoulder dislocation. J Emerg Med.1999;17(1):401-7.
9. Dahmi FZ, Moujtahid M, El Andaloussi Y, Bekkali Y, Zaouari T, Nechad M, Ouarab M. Luxation erecta de l'épaule (à propos de huit cas). Chirurgie de la main. 2008 Sep 1;27(4):167-70.
10. Gordon I. Results of treatment of luxation erecta. JSE. 2009;(1):062.
11. Brady WJ, Knuth CJ, Pirrallo RG. Bilateral inferior glenohumeral dislocation: luxatio erecta, an unusual presentation of a rare disorder. Journal of Emergency Medicine. 1995 Jan 1;13(1):37-42.
12. Gelczer RK, Swee RG, Adkins MC. Bilateral inferior glenohumeral dislocations. J Trauma.1996;40(1):825-6.
13. Snyder BK. luxation erecta J. Emerg Med. 2001;20(1):83-4.
14. Barnett AJ, Eastangh-Waring SJ, Sarangi PP. Delayed presentation of luxation erecta dislocation of the shoulder. Injury Extra. 2005;36:277-9.
15. Mallon WJ, Bassett FH, Goldner RD. luxation erecta: the unferior glenohumeral dislocation. J orthop Trauma.1990;4(1):19-2.
16. Garcia R, Ponsky T, Brody F, long J. Bilateral luxation erecta complicated by venous thrombosis. J trauma. 2006;60(1):1132-4.
17. Sewecke J, Sokratis V. Bilateral luxation erecta: A case report and review of the literature. Am J Orthop.2006;35(1):578-80.