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Three cases of bilateral antero-medial dislocations of the shoulder

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Abstract

Introduction: Glenohumeral dislocation in its antero-internal variety is a very common lesion encountered in the context of emergencies (95% of cases).

It can occur simultaneously on both shoulders. This clinical form is extremely rare in the literature since the forms described in epileptics are generally posterior pure.

Thus, the aim of our study was to report the three cases of bilateral antero-internal dislocations and to review the literature.

Materials and methods: This is a continuous prospective study from January 2014 to December 2015 and consisted of three patients all male.

We used the Kocher technique for the reduction of dislocations with restraint by Mayo clinic after glenohumeral insertion. Clinical assessment was based on physical examination and constant score. Rehabilitation had been carried out.

Results: The surgery was simple with a resumption of their activities one month after surgery. The rehabilitation was undertaken as soon as the restraint was removed, ie on the 21st day.

The constant score was considered excellent in these two patients.

Discussion: In two of our patients, dislocation occurred in an epileptic setting. In effect only the violent, synchronous and sufficiently strong muscular contractions can explain this symptomatology. The peculiarity of this study is that it occurs on both shoulders in the antero-internal variety in two epileptics and a healthy subject. This clinical form is extremely rare in the literature since the forms described especially in epileptics were posterior pure. Hence a real contradiction. After orthopedic reduction by the Kocher technique, one of our patients (observation2) had an embedding of the two trochanters, and then in the other a screwing of the trochanter (observation1). A mayo clinic was set up after surgery. The third patient had bilateral dislocation of both shoulders in the antero-internal variety, following a traffic accident. Indeed it would have been struck then would have made a fall with reception on both hands and the buttock. This lesion has never been described in the literature, but other unusual traumatic mechanisms have been reported. Singh and Kumar [18] reported a case where both shoulders were dislocated by different mechanisms. The reduction was simple and we used the technique of Kocher and a contention by mayo clinic was carried out. It was revised to the 21st day concomitant with the removal of the mayo clinic and the beginning of rehabilitation. This during the constant score was judged to be bad and well below the average.

Conclusion: We advocate, before a bilateral dislocation of the shoulder, in our context of exercise: - Reduction in emergency and under general anesthesia - rehabilitation should be undertaken as soon as the restraint is lifted This procedure will, of course, be discussed with our other orthopedic colleagues.

Keywords: bilateral antero-medial, antero-internal, glenohumeral

Introduction

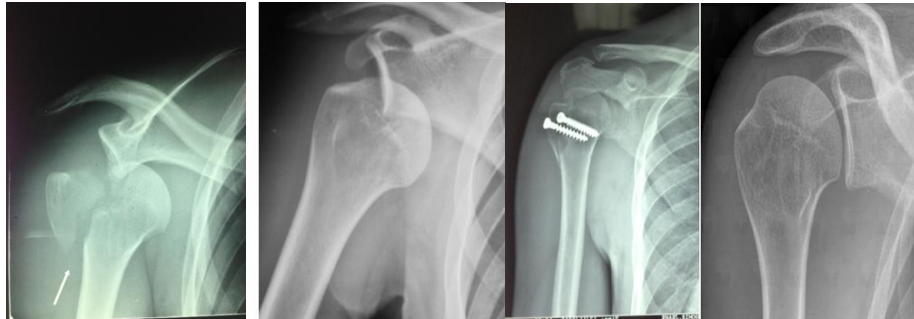
Antero-internal dislocation of the shoulder is a very frequent lesion. The peculiarity of this study is that it occurs on both shoulders in the antero-medial variety, in two epileptics and one non-epileptic with anterior instability of the shoulder. These clinical forms are extremely rare in the literature since on the one hand the forms described in the epileptics are posterior pure. We report these cases and discuss their unusual variety.

Observations

Observation 1: a 30-year-old right-handed painter with a history of epileptic seizures since

childhood. He was admitted to the surgical emergencies, on D3 of a closed trauma of both shoulders following a fall that occurred during a seizure episode. The mechanism of the fall was not specified by the witnesses, but this caused an absolute functional impotence of the two limbs with sharp pain. Clinical examination revealed typical signs of glenohumeral dislocation in its antero-medial variety under coracoid. The radial pulse was perceived regularly on both sides. The

sensibility of the stump of the shoulders was preserved. The standard radiographic evaluation showed an antero-medial dislocation in its variety under pure coracoid on the right and associated with a fracture of the trochiter on the left. Both dislocations were reduced by the Kocher maneuver. The fracture of the trochiter was treated by percutaneous screwing under scopic control. A complementary restraint by mayo clinic was instituted at the level of the shoulders.



Complete healing was obtained on D21 concomitant with the removal of both restraints.

At 45 days of intervention, there was a marked improvement in symptomatology. The Constant score was excellent (94/100) with an average of 90 for a standard deviation of 3.1; the abduction was 160 left and 180 right, internal rotation reached D4, external rotation was 45 right and 30 left. The sensitivity and contractility of the stump of both shoulders were normal. There were no signs of instability at the shoulders.

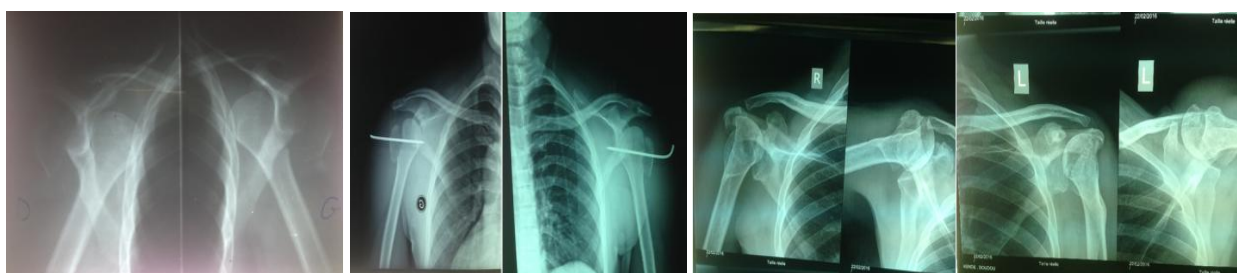
Observation 2: This is a 56-year-old, right-handed bus driver with a history of epileptic seizures under Gardéal ill-followed, received in consultation following an epileptic seizure that occurred during his sleep. He would have clinically shown clinical signs suggestive of bilateral glenohumeral dislocation in his previous variety. The radiographic assessment carried out was in favor and showed the antero-internal dislocation in its variety under coracoïde associated with a fracture of the trochiter at the

level of the two shoulders. The indication of a reduction under general anesthesia of its two dislocations by the maneuver known as Kocher. The two fractured trochitters were treated by reduction and then embedded under a brightness enhancer. The surgical treatment was completed by a Mayo Clinic-type orthopedic treatment at both shoulders. The surgical follow-up was simple with healing of the two specimens on the 15th day and an ablation of the two Mayo clinic on the 21st day. Rehabilitation began early.

At 45 days of intervention, there was a decrease in pain during active and passive movements: abduction was 165 ° left and 170 ° right, internal rotation reached D4, external rotation was 45 ° to the right and 45 ° to the left. The sensitivity and contractility of the stump of both shoulders were normal. There were no signs of instability at the shoulders.

The Constant score was excellent (94/100) with an average of 90 for a standard deviation of 3.1.

The patient had resumed his sports activities (karate) on the 90th day.



Observation 3: He is a retired 60-year-old Africamer, right-handed, operated on the abdomen, received for a closed trauma of both shoulders following a traffic accident. He was allegedly hit by a taxi and then made a fall with the two hands on the ground. The standard radiographic assessment showed bilateral dislocation of both shoulders in the antero-internal variety under coracoid with no other associated signs. The indication for an emergency reduction and restraint of both shoulders was made and carried out on the same day. The therapeutic sequences were simple. The patient was reviewed at 3 weeks concomitant with the removal of both mayo clinic. Rehabilitation had been carried out. At J90, undressing was difficult but possible. The Constant score was bad at 45 well below the average at 90. The

standard deviation was 1.5. Abduction was 90 left and 15 right, internal rotation reached D4, external rotation was 30 right and 40 left. The sensibility was preserved on both sides. The contractility of the stump of the two shoulders was respectively rated 4 on the right and 5 on the left. An ultrasound performed showed a rupture of the tendon of the supra-spinous muscle.

Discussion

It will deal with the frequency of bilateral dislocations in their antero-internal variety, mechanism of occurrence, management and prognosis.

Dislocation of the shoulder is recognized as the most frequent dislocation of the entire body (85% of cases) [6]. It is earlier in

98% of cases. Bilateral dislocations have been the subject of few publications [7]. They always occur as a result of a sports accident or during convulsive seizures. The shock is not necessarily violent. It is generally very particular:

- Direct fall on the palms of both hands with arms extended backwards. This is typically what happens when you slip and catch up on both hands at the same time. In sport: roller skating, skateboarding, combat sports, rugby and judo are the biggest providers of shoulder dislocation;

Symmetrical and sufficiently strong synchronous force acting on both shoulders, often occurring in a context of convulsive seizures of epileptic, electrical, neuromuscular or genetic origin, as in the Ehlers Danlos syndrome.

The first case was described in 1902 [17]. In 1984, analysis of 90 cases of bilateral dislocations published in the literature allowed Brown [2] to find three different etiologies:

- violent muscle contractions (49%);
- trauma (23%);
- atraumatic (36%).

Other varieties of bilateral dislocation of the shoulder are found, namely, anterior, posterior, inferior or erecta, superior forms [17]. In the case of bilateral dislocations, the posterior form is the most commonly found in the literature, especially in relation to the particular sites predisposing to its occurrence. In nearly 80% of cases the etiology is a convulsive seizure, to the point that Mac Laughlin in 1952, Honer in 1969 [11] and Neer in 1970 considered a posterior bilateral posterior dislocation of the shoulder outside of any context traumatic disease was pathognomonic of an epileptic seizure [8]. However, the anterior variety is very rare [19]. In our study, the particularity is that on the one hand our patients all had bilateral dislocations in the antero-medial variety, contrary to what is often described in the literature, and on the other hand they did not show ligament hyperlaxity. In terms of history, two of our patients had seizures of epileptic etiology since childhood. This finding seems paradoxical considering the explanation that the authors have often put forward in convulsive seizures in epileptics, with a symmetrical and synchronous force capable of expelling the two humeral heads posteriorly [4]. The results of our study, as well as those found in the literature, confirm the low probability of this variety. Indeed, in the tonic phase in the generalized seizures of epilepsy, one notes an intense contracture of all the muscles of the body including those of the stump of the shoulder; of the circumstances that may be the member's predisposition at the time of the crisis or even the anarchy and violence of these spasms may cause the limb to lose itself in an unusual form. This is the most plausible explanation we have been able to find to explain this phenomenon. In addition, one of our patients had presented his dislocation following a traffic accident. It is a retiree of 60 years more than his physiological age. The accident occurred after a traffic accident. Indeed it would have been bumped from the front and thrown to the ground with reception on the palms of the hands and buttocks. This lesion has never been described in the literature, but other unusual traumatic mechanisms have been reported. Singh and Kumar [20] reported a case in which both shoulders were dislocated by different mechanisms: dislocation of the left shoulder was secondary to a motorcycle fall with reception on the shoulder while on the right, dislocation occurred when the helpers helped the patient to get into the car holding it by the upper right limb. This patient had a history of instability at the right

shoulder and this episode was the fourth. Two other cases of bilateral shoulder dislocation have been reported in patients without a history of instability, having raised bars during a weight training session. The dislocations of the shoulders had occurred by rocking the bar back. The authors advocated the use of fixed bars for the prevention of these dislocations [4].

The reduction of these dislocations was not difficult and was done under general anesthesia. We used the Kocher technique which is a simple and reproducible technique. We did not want to reduce them to sedation, a method usually used in the case of dislocation of the shoulder. We thought that the pain experienced by the patient during the Kocher method could have provoked a reflex contracture, which could prevent the reduction of one or two dislocations [5]. The Spaso technique, described by Miljesic and Kelly in 1998 [16], would be more effective. This simple technique consists of exerting a vertical traction on the traumatized limb, held by the wrist, the patient in supine position, and then progressively exerting an external rotational movement. The force used to obtain the reduction by this technique would be less than that used in the Kocher method [20].

After reduction, vascular and nerve complications were investigated. The radial and axillary pulse were well perceived. The clinical forms of our series rarely expose the brachial plexus which runs immediately forward, inward and downward of the glenohumeral joint. A review of the literature showed a case of paralysis of the brachial plexus secondary to a dislocation of the shoulder in its antero-internal variety under coracoid [13]. Consequently, further reviews were recommended. The EMG immediately after the accident has little interest, it only confirms the clinical impression of paralysis. It should be performed in the absence of clinical recovery from the sixth or eighth week and should be coupled with a study of nerve conduction velocity (PNT). The cervical myelography coupled with a CT scan (myeloscanner) is not a priori indicated because it is not a supraclavicular disease. On the other hand, the study of the plexus by the MRI is an excellent indication if one finds a recovery with a doubt on an axillary nerve injury. The MRI can then show an axillary nerve neurologically, which can justify a surgical procedure early in the first 6 months after the accident [8]. As far as the therapeutic attitude is concerned, there is no emergency indication unless there is an arterial lesion associated with true ischemia (disappearance of the capillary pulse). Truncal paralysis and plexual involvement are good prognoses and recover in the first months, whereas axillary nerve palsies have a more reserved prognosis and can take 18 months to 2 years to recover. The surgical indication in the absence of clinical or electrical recovery should be asked before the sixth month [15]. Rehabilitation should be more important in order to avoid sequellar stiffness.

In our study, although our patients did not have plexual involvement, they all had functional rehabilitation sessions in terms of motion amplitude recovery, and proprioception. In addition, rotator cuff injury was not found in the literature. This is in contradiction with our study, because of our patients, 1 had a rupture of one of the muscles of the rotator cuff, namely the supra-spinous. This is what probably explains the non-functional recovery. This during the question that arises and which deserves to answer is the rupture of the supra-spinous occurred at the time of the dislocation or before the traumatism which caused the dislocation? Of course at this age, due to fatty degeneration and loss of muscle trophicity, breaks are quite frequent.

Conclusion

In light of this work, we recommend: - always seek bilaterality because of the rarity and violence of causal trauma - always put a provisional restraint. However, its placement can lead to a certain functional disability, especially when it concerns both shoulders. Hence a question is raised namely; Is it necessary to put a restraint on both sides? Should we not just spare the dominant side while proscribing harmful attitudes?

Conflict of interest: none

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