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Sternoclavicular joint Dislocations: About four cases and review of literature

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Abstract
Sternoclavicular joint (SCJ) dislocations are often due to high energy trauma. The evolution is favorable for the anterior dislocations; The complications are represented by mediastinal disorders for posterior dislocations, recurrence and chronicity especially for anterior varieties. The treatment consists on a closed reduction with immobilization by bandage for six weeks.

Keywords: sternoclavicular joint, dislocation, reduction

1. Introduction
SCJ dislocations are generally rare. However, due to the increasing amount of contact sports being played, emergency physicians must be aware of how to diagnose and treat these injuries. The anterior variety is the most frequent, and the posterior variety is rare but very serious requiring an emergency reduction. Sternoclavicular joint dislocations often progress towards recurrence, and the treatment is orthopedic in most cases.

2. Materials and Methods
We report four cases of sternoclavicular joint dislocations treated in the Department of Orthopedic surgery of Rabat. These are four patients consulting for a swelling of the inner end of the clavicle with a limited range of motion of the superior arm. Clinically, a severe pain was present at the palpation of the sternal end of the clavicle in the four patients, the deformity was visible in three cases and masked by the edema in the fourth case. Standard antero-posterior radiographs completed with CT scan imaging have shown SCJ dislocations. Closed reduction under procedural sedation in the emergency department was done successfully. Sling support with scapular protraction has been done for six weeks. The results were satisfactory at 2 years of follow up.

3. Results & Discussion
SCJ injuries are generally rare. However, due to the increasing amount of contact sports being played, emergency physicians must be aware of how to diagnose and treat these injuries. The SCJ serves as an important fulcrum for movement of the shoulder girdle. It is the only true articular attachment of the upper extremity to the axial skeleton. Dislocations account for only 3% of all dislocations around the shoulder [1].The examination of the patient with a potential SCJ dislocation should be completed in the seated or standing position. Supine positioning may exacerbate severe pain, as may arm motion. The patient will have localized pain and swelling to the joint.
Dislocations of the SCJ are notoriously difficult to visualise on plain radiographs. Routine chest radiographs have a poor sensitivity for picking up dislocations, however they mandatory if there is a suspicion of a posterior dislocation so as to rule out a pneumothorax, pneumomediastinum or haemopneumothorax [1].CT imaging is readily available 24 h a day in most trauma units and this is the investigation of choice It has superior image resolution and allows 3D reconstruction of the SCJ to determine its exact position [2]. MRI has a poorer resolution than CT but can be used to assess ligamentous injury and the condition of the other soft tissues posterior to the SCJ [1]. Dislocations of the SCJ can be broadly classified by the direction of displacement, which may be anterior or posterior, superior or inferior. Dislocation of the SCJ is often not an isolated event and may be due to other structural causes than trauma.
Bicos *et al.* [3] argues that anterior SCJ instability should primarily be treated conservatively. The patients should be informed there is a high risk of persistent instability with non-operative treatment, but this persistent instability will be well tolerated and have little functional impact in the vast majority. Most anterior SCJ instability can be managed without surgery. However a small sub group of these patients go on to develop persistent symptomatic instability requiring surgical stabilisation. Although these injuries are rare, complications such as oesophageal, tracheal or neurovascular injury occur in approximately 30% with a mortality rate of 3%-4% [4]. Closed reduction under sedation should be attempted in patients presenting in the acute phase (within 7-10 d). Rockwood described a technique of reduction in which a towel clip is used percutaneously to grasp the medial clavicle and pull it anteriorly [5].

4. Figures

Fig 1: Standard x-rays showing right SCJ dislocation

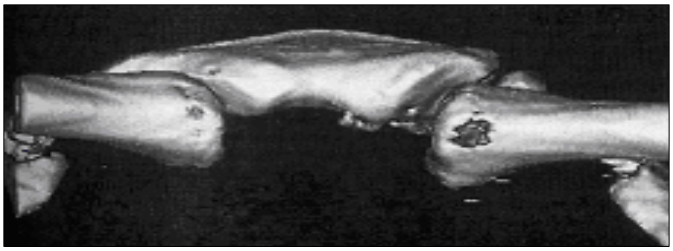

Fig 2: CT imaging showing a right SCJ dislocation

5. Conclusions

Traumatic dislocations of the SCJ are rare, but with increased involvement in contact sports, these injuries will be seen in the ED. Maintain a high clinical suspicion for these injuries, given the proper mechanism. Also be on the look out for associated injuries for posterior dislocations. Reduction can be completed in the ED with subsequent immobilization and orthopedic referral.

6. Declaration of Interst

The authors declare that they have no conflicts of interest in relation to this article.

7. References

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