REV BRAS ORTOP. 2016;xxx(xx):xxx–xxx

SOCIEDADE BRASILEIRA DE ORTOPEDIA E TRAUMATOLOGIA

RBO REVISTA BRASILEIRA DE ORTOPEDIA

www.rbo.org.br

Case Report

Posterior dislocation of the sternoclavicular joint: report of two cases☆

Pedro José Labronici[a,b,*], *Fabrício Cardoso de Souza*[c,d], *Robinson Esteves Santos Pires*[e], *Fernando Claudino dos Santos Filho*[b], *Vinicius Schott Gameiro*[a], *Gustavo José Labronici*[b]

[a] *Universidade Federal Fluminense, Niterói, RJ, Brazil*
[b] *Hospital Santa Teresa, Petrópolis, RJ, Brazil*
[c] *Faculdade de Medicina de Campos, Campos, RJ, Brazil*
[d] *Beneficência Portuguesa de Campos, Campos, RJ, Brazil*
[e] *Universidade Federal de Minas Gerais, Belo Horizonte, MG, Brazil*

ARTICLE INFO

Article history:
Received 31 October 2015
Accepted 10 November 2015
Available online xxx

Keywords:
Sternoclavicular joint
Injuries of the sternoclavicular joint
Closed reduction
Surgical treatment

ABSTRACT

The authors report the cases of two young patients who had suffered a sporting accident with posterior traumatic dislocation of sternoclavicular joint. In one of the patients closed reduction was accomplished by keeping the limb in a sling. The second patient, after reduction was done, presented recurrence of the dislocation, thus requiring surgical treatment. It is important to observe the relevance of computed tomography to help diagnosing, as well as monitoring the reduction procedure. The objective of this study was to demonstrate two different types of treatment in a rare injury such as the posterior dislocation of sternoclavicular joint.

Luxação posterior da articulação esternoclavicular: relato de dois casos

Palavras-chave:
Articulação esternoclavicular
Lesões da articulação esternoclavicular
Redução incruenta
Tratamento cirúrgico

RESUMO

Relato de caso de dois jovens que se acidentaram no esporte e apresentaram luxação traumática posterior da articulação esternoclavicular. Em um paciente foi feita a redução incruenta e manutenção com tipoia. O segundo paciente, após a redução, apresentou recidiva da luxação, foi necessário o tratamento cirúrgico. Vale salientar a importância da tomografia computadorizada no auxílio do diagnóstico, assim como para monitorar a

☆ Study conducted at Hospital Santa Teresa, Petrópolis, RJ, Brazil.

* *Corresponding author.*
E-mail: plabronici@globo.com (P.J. Labronici).

http://dx.doi.org/10.1016/j.rboe.2016.08.019

Please cite this article in press as: Labronici PJ, et al. Posterior dislocation of the sternoclavicular joint: report of two cases. Rev Bras Ortop. 2016. http://dx.doi.org/10.1016/j.rboe.2016.08.019

redução. O objetivo deste estudo foi demonstrar dois tipos diferentes de tratamento em uma lesão rara como a luxação traumática posterior da articulação esternoclavicular.

Introduction

Traumatic posterior dislocation of the sternoclavicular joint is a rare injury with less than 1% incidence among all dislocations, but which is potentially serious.[1] This injury is most frequently observed in young adults after high-energy trauma and can be difficult to diagnose, both clinically and radiographically.[2] Although rare, posterior sternoclavicular dislocation is associated with several complications due to the proximity to mediastinal structures. These injuries include respiratory system and brachial plexus impairment, vascular injury, pneumothorax, and dysphagia, and may even lead to death.[3–5]

According to the literature, traumatic posterior dislocation of the sternoclavicular joint is often associated with delayed diagnosis and may initially be clinically insignificant. It can be treated with joint stabilization through closed or open reduction.[3–7]

This report aimed to present two cases of traumatic posterior dislocation of the sternoclavicular joint that were treated different ways, and to draw attention to the value of CT scan in confirming the diagnosis and monitoring of the reduction.

Case report

Case 1

Eighteen-year-old male patient reported a lever-type soccer fall, having fallen on his left shoulder, his non-dominant side. He arrived at the hospital emergency room 45 min after the accident, with pain in the left shoulder girdle, especially in the sternoclavicular joint, with arm movement difficulty. He denied paresthesia or tingling in the limb, difficulty breathing, or pain in the cervical region.

Upon physical examination, the skin was normal, with a slight asymmetrical swelling on the left side. Function and strength were limited by pain. The patient had pain at palpation on the left sternoclavicular joint. Neuromuscular examination of the upper left limb was normal. Radiographic examination showed asymmetry of the left sternoclavicular joint and the patient was taken immediately to the CT scan (Fig. 1A and B).

The patient was examined two days after the injury by the trauma team, who decided to treat the dislocation with closed reduction. He was taken to the operating room and underwent general anesthesia. He was positioned supine with a cushion in the dorsal region, between the shoulders, and the reduction manouver was made with the aid of a towel clamp inserted percutaneously. At the time of reduction, a “clunk” was felt; at both the clinical examination and fluoroscopy, the dislocation had reduced. The patient was immobilized with a sling and taken to the radiology unit to undergo a second CT scan. The result showed that the reduction had been lost, and the treatment was rescheduled with open reduction and fixation (Fig. 2A and B).

Surgical procedure

The patient was positioned supine with a cushion between his shoulders. Under general anesthesia and following the administration of 2 g of EV cephaloridine, an incision of approximately 8 cm from the manubrium to the middle third of the clavicle was made. Through careful dissection, it was noted that the sternoclavicular ligaments of the anterior region were intact, but after incising the ligament, damage to the posterior ligaments of the joint and extensive periosteal avulsion of the middle third of the clavicle, which was inferiorly deviated, were observed. The meniscus was identified and repaired. Subsequently, two holes were made with a 2 mm drill bit in the manubrium, through which an Ethibond Exel M46® No. 5 wire was passed. Two holes were made in the clavicle, using a drill bit of the same thickness, and the wire was passed. The dislocation was reduced and fixed with the wire in a cerclage manner. An additional wire was used in the upper region between the manubrium and clavicle to secure the reduction. The shoulder was tested and joint stability was observed. The wound was closed with suture of the anterior sternoclavicular ligament and subsequent tissues. The patient was immobilized with a sling (Fig. 3A and B)

Case 2

Thirty six year old male patient, aged 36 years, suffered a direct trauma on his left clavicle (non dominant side) during a soccer game (playing as goalkeeper, when he got down to make a defense, he took a knee strike directly onto his clavicle). On emergency care, he presented severe pain in the clavicle region, but without major deformities visible on physical examination. He did not show arm movement difficulty, limb numbness or tingling, difficulty breathing, or pain in the cervical region. Function and strength were limited by pain. The patient had pain at palpation on the left sternoclavicular joint and was immediately taken to the CT scan (Fig. 4A and B).

The patient was examined two days after the injury by the trauma team, who decided upon treatment with closed reduction of the dislocation. He was taken to the operating room and underwent general anesthesia. He was positioned supine with a cushion in the dorsal region between the shoulders, and a closed reduction was accomplished with the aid of a towel clamp inserted percutaneously. The patient was immobilized with a sling and taken to a second CT scan. The examination

Please cite this article in press as: Labronici PJ, et al. Posterior dislocation of the sternoclavicular joint: report of two cases. Rev Bras Ortop. 2016. http://dx.doi.org/10.1016/j.rboe.2016.08.019