Recent Trends in Mangement of Acromio-clavicular Joint Injuries

Essay

submitted in partial fulfillment for Master degree of Orthopaedic surgery

By

Mostafa Samir hafez

M.B.B.Ch

Ain Shams University 2010

Supervised by

Prof. Dr / Mahmoud Mohamed Fayed

Professor of Orthopaedic surgery

Faculty of medicine

Ain Shams University

Dr / Mohamed Mokhtar Abdullah

Lecturer of Orthopaedic surgry

Faculty of medicine

Ain Shams Universty

Faculty of Medicine

Ain-Shams University

2015

الطرق الحديثه في علاج اصابات مفصل الأخرمي الترقوي

رسالة
توطئة للحصول على درجة الماجستير لجراحه العظام

مقدمة من

الطبيب / مصطفي سمير حافظ
بكالوريوس الطب والجراحة
جامعة عين شمس 2010

تحت إشراف

الأستاذ الدكتور/ محمود محمد فايد
أستاذ جراحه العظام
كلية الطب - جامعة عين شمس

الدكتور/ محمد مختار عبد اللا
مدرس جراحه العظام
كلية الطب - جامعة عين شمس

كلية الطب
جامعة عين شمس
2015

Acknowledgement

First, I Thank **Allah**, The Beneficent and the Merciful. Then I would like to give a lot of thanks to **Department of Orthopaedic Surgery** in **Ain shams university** for their cooperation with me .

I would like to direct great and special thanks to **Prof. Dr. Mahmoud Mohamed fayed**, Professor of Orthopaedic surgery, Faculty of medicine, Ain Shams University, whom I am greatly indebted for his great support and encouragement he gave me throughout this work. It's my pleasure to work under his supervision.

I would like to thank **Dr. Mohamed Mokhtar Abdullah**, Lecturer of Orthopaedic surgery, Faculty of medicine, Ain Shams university, for taking a lot of his time to guide and review my work , trying to make it as complete and comprehensive as possible .

Last but not least, I would also like to thank **Prof. Dr. Rashed Emam**, **Prof. Dr. Maged Sami** and my family for their cooperation and help.

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AC	Acromioclavicular
CC	Coracoclavicular
CA	Coracoacromial
AP	Antero-posterior

INTRODUCTION

The acromioclavicular (AC) joint is a diarthrodial joint formed by the distal clavicle and the medial facet of the acromion. Traumatic injuries of the acromioclavicular joint frequently occur in persons participating in contact and collision sports such as football, weightlifting or those suffering a fall into the shoulder. Several ligaments stabilize the clavicle to the scapula. The anterior, posterior, inferior and superior acromioclavicular ligaments stabilize the clavicle to the acromion with the superior ligament being most important. The coracoclavicular ligaments, the conoid and trapezoid are strong ligaments which stabilize the clavicle to the coracoid process of the scapula .[1]Acromioclavicular joint dislocations represent 12% of all dislocations of the shoulder girdle and 8% of all joint dislocations in the body.[2]

Separations are divided into 6 types, and treatment is decided upon the basis of the type of separation. A type I separation is a sprain of the acromioclavicular ligaments with no subluxation of the clavicle, and a type II is a partial superior subluxation of the clavicle with a sprain of the coracoclavicular ligaments. These 2 types are treated nonoperatively. Type III separations involve 100% displacement of the clavicle with complete tears of the coracoclavicular ligaments. These separations are subdivided into acute and chronic. Most surgeons agree that acute tears and asymptomatic chronic tears do not require surgical intervention. Symptomatic chronic type III separations do require surgery to stabilize the clavicle. In a type

IV separation, the clavicle is posteriorly subluxed. Type V is a 200% to 300% superiorly subluxed clavicle in which the deltotrapezial fascia is torn. Type VI is an inferiorly subluxed clavicle in which the clavicle is locked under the coracoid process. Types IV-VI are treated surgically in an acute setting .[3] When acromioclavicular joint injury is suspected the patient should be examined whenever possible in the standing or sitting position .[4] Good quality radiographs of the acromioclavicular joint require one-third to one-half the x-ray penetration required for the denser glenohumeral joint. [5]

Several operations have been reported to stabilize the clavicle. The most commonly used procedure is the modified Weaver-Dunn. The end of the clavicle is excised and the coracoacromial ligament is released from the undersurface of the acromion. Sutures are sewn into the ligament, and the ligament is then secured into the end of the clavicle, where the sutures are tied over a bone bridge. This operation has yielded satisfactory results, but several methods of augmentation have been used to strengthen the construct. These have included cerclage wires, suture anchors, screws, synthetic grafts, and, more recently, allograft tendons. Recently, there has been renewed interest in reconstruction of the acromioclavicular joint separations. Several biomechanical studies have been performed to evaluate the load that triggers the failure of native ligaments and to compare different repair techniques. The new attention is the anatomic reconstruction of the coracoclavicular ligaments using tendon grafts. These grafts are looped around the coracoid process and then are placed through or

around the clavicle, and are secured by either suturing the graft to itself or by interference screws.[6]

Currently, a wide range of procedures aiming at a permanent reduction of AC joint dislocations exists. However, non of these has been shown to be the overall gold standard. Open and arthroscopically assisted procedures are currently known .[7]

Procedures are separated into open and arthroscopically assisted procedures. Representative for each, an anatomic and non-anatomic technique are described. General consensus exists that a diagnostic glenohumeral arthroscopy should be performed previous to either arthroscopic or open reconstruction techniques to address possible concomitant intra-articular lesions.[8]

Aim of the study

The aim of this study is to give a review about causes of acromioclavicular joint injuries and its different types and discussing the recent methods of their management.