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A CASE REPORT OF AC JOINT DISRUPTION

Orthopaedics

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ABSTRACT

A case of Left AC joint Disruption has been described.Fractures around AC joint occurs due to both Direct and indirect trauma.Direct trauma by impact on lateral part of the shoulder with arm in adducted position.A 45 year old male had RTA and sustained injury to his left shoulder.X ray was taken and patient was diagnosed to have left sided post traumatic AC joint disruption with ROCKWOOD classification Type 3 with no neurovascular deficit.Patient underwent osteosynthesis and post operative course was uneventful.The patient had no complaints following surgery.

KEYWORDS

AC joint Disruption, Rockwood classification, osteosynthesis

INTRODUCTION:

Injuries to the acromioclavicular (AC) joint represent a spectrum of soft tissue disruptions that can result in mild, transient pain about the joint to significant displacement, chronic pain, and changes in shoulder biomechanics resulting in long term disability. These injures most commonly occur in male patients <30 years and are associated with contact sports or athletic activity and in direct trauma in which a direct blow to the lateral aspect of the shoulder occurs. The contact or collision athlete represents a "high-risk" individual, especially those who play sports like football, rugby, and hockey.1,2,3,4

Various surgical options have been developed including fixation across the AC joint by tension band wiring or fixing using K-wires , extra-articular Bosworth screws , AC hook plates, coracoacromial ligament transfer (Weaver–Dunn procedure), coracoclavicular (CC) fixation, and AC or CC reconstruction.Gold standard procedure is yet to be established.

Case Presentation:

A 45 year old male patient came to our institution sree Balaji Medical College and hospital Casuality who had an alleged history of Road traffic accident Two wheeler vs two wheeler and sustained injury to left shoulder followed by which patient had difficulty in lifting the arm.On local examination of the left shoulder there were no external injuries, lateral end of clavicle was prominent and tender,Swelling present,range of movements were globally restricted without any neurovascular deficit,there were no other associated injuries.

X ray was taken of left shoulder AP view showing AC joint disruption.Patient was put on shoulder immobiliser and analgesics were given.

PROCEDURE:

Patient was worked up for surgery by doing all pre surgical investigations. Anaesthetic fitness for surgery was obtained.Patient was planned for open reduction and internal fixation with lateral clavicular hook plate.Patient in supine position ,under general anaesthesia ,parts prepared and draped under aseptic precautions.Through superior approach an oblique incision of 8-10 cm was placed just superiorly over the fracture site.Skin , SC tissue ,clavipectoral fascia cut and retracted.Pectoralis major muscle was released in lateral end and fracture site was exposed .AC joint was reduced,Hook plate is placed under the acromion process and screws are used to fix the plate to lateral clavicle,reduction was checked and was found to satisfactory,wound was closed in layers with drain insitu and sterile dressing was done and shoulder immobiliser was placed.

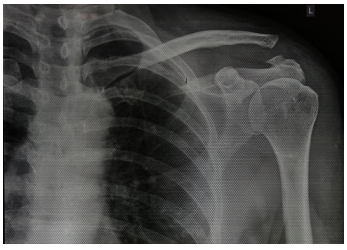

Figure 1 showing plain x-ray left shoulder AP view

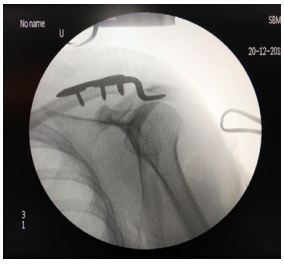

Figure 2 showing Carm image

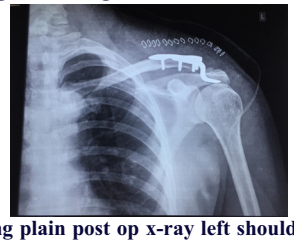

Figure 3 showing plain post op x-ray left shoulder AP view with implant insitu

DISCUSSION:

AC Joint dislocation is one of the common shoulder problems accounting for 9% of all shoulder injuries5.It can result from both direct and indirect trauma.Direct trauma is caused by superiorly directed impact on lateral part of shoulder with arm in adducted position forcing the arm in an inferior direction6,7.Indirect trauma generally results from fall on an adducted and outstretched arm causing the head to be driven into inferior aspect of the acromion and joint itself.

On the basis of magnitude and direction of dislocation, Rockwood *et al.*[8] introduced a classification system to classify AC joint dislocations from Grade I to VI. It is generally accepted that Types I and II can be managed conservatively, conservative or operative is still controversial for Type III injuries, and Types IV–VI injuries are treated operatively.[9]

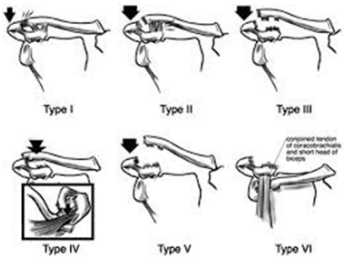

Figure 4:ROCKWOOD CLASSIFICATION

Conventionally, K-wires or tension band wiring and extra-articular Bosworth screw were used to maintain reduction. However, these techniques lead to loosening and breakage of the implant. Other surgical modalities such as coracoacromial ligament transfer (Weaver–Dunn procedure), CC fixation, and AC or CC reconstruction are also used. However, the clinical superiority of these procedures remains debatable, and various complications have been reported with these techniques.[10] On the other hand, AC hook plate has become widely used as it enables secure fixation against horizontal, rotational, and vertical forces as well as allows early joint motion. The plate by maintaining reduction of the joint promotes natural healing of the ligaments and avoids direct injury to the joint because it is not fixed by pins or screws into the AC joint .Previous studies have reported satisfactory clinical results of hook plate fixation for AC joint dislocation.11 Lin *et al*.

demonstrated that AC hook plate could cause subacromial shoulder impingement and rotator cuff lesion, and they advocated the removal of the implant as soon as ligamentous healing is achieved that is by 6 months.[12]

CONCLUSION:

Radiographic outcome based on the maintenance of reduction indicates that hook plate fixation is a good treatment option and is an effective method for the treatment of AC joint dislocation on long run it is associated with osteoarthritis,osteolysis and impingement.Shoulder function will improve after implant removal.

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