ACROMIOCLAVICULAR DISLOCATION

Essay

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Introduction and Aim Of the Work.

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Acromioclavicular injury is a common event, not only in young, athletically active individuals, but also in association with motor vehicle and industrial trauma [1].

This type of injury has been subjected to controversy from the early medical writings; ***Hippocrates (460-377 BC)*** stated that " *No impediment, small or great, will result from such an injury. And there would be a tumefaction for the bone that can not be properly restored to its normal situation.*" This statement was, has been, and will be received by the Orthopædic community as a challenge, so there is no joint in the body that has been treated in such different ways as the acromioclavicular joint in attempts to restore the joint properly to its normal situation. [2]

The Aim of this work is to discuss the anatomy and biomechanics of the acromioclavicular joint, classifications, pathology, and mechanisms of injury, dignosis, treatment, and complications of the dislocation.

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ANATOMY AND BIOMECHANICS OF THE ACROMIOCLAVICULAR JOINT

1- ANATOMY OF THE ACROMIOCLAVICULAR JOINT

The acromioclavicular joint is a true synovial diarthrodial joint of the plane variety that allows the articulation of the medial aspect of the acromion and the lateral aspect of the clavicle.[1]

The articular surfaces are not perfectly congruent, and a fibrocartilagenous meniscus is interposed between them, which is frequently incomplete.[2]

The articular surfaces are hyaline, and at about 17 years of age, on the acromial side of the joint, and 24 years of age, on the clavicular side of the joint, the hyaline cartilage becomes fibrocartilage.[3]

▫ INTERARTICULAR DISC:

The interarticular disc is formed of fibrocartilage and occupies the upper part of the articulation.[4]
Two types of the fibrocartilagenous discs are revealed:
1- The complete fibrocartilagenous disc.
2- The incomplete meniscoid disc.
These discs undergo degeneration by the forth decade: infact only remnants of the interarticular disc are found after the second decade.[3]

▫ THE SYNOVIAL MEMBRANE:

There is usually one synovial membrane in this articulation, but when a complete interarticular disc exists there are two synovial membranes.[4]

BLOOD SUPPLY: [5]

The blood supply for this joint is derived from:

1- The acromial branch of the supra scapular artery from behind.

2- The acromial branch of the thoracoacromial artery from front

NERVE SUPPLY:

Proprioceptive nerve fibers supplying this joint is derived from $C_{5,6}$ via branches of the supraclavicular lateral pectoral, and axillary nerves. [6]

VARIATIONS OF THE JOINT INCLINATION:

The acromioclavicular joint is inclined a few degrees from anterolateral to posteromedial in the coronal plane [7], the flat articular surface of the outer end of the clavicle is directed outward, downward, and backward to meet the acromial facet. [8]

Great variations exists in the plane of the articular surfaces of the bone ends comprising this joint. The postmortem studies of the acromioclavicular joint can help us to categorize the acromioclavicular joint into three types; depending on the inclination of the acromioclavicular joint, viewed from front (fig 1-1)

- Type I with 16° inclination
- Type II with 24.6° inclination.
- Type III with 36.1° inclination.

Type I with such inclination is subjected to more shearing forces than type II and III. [9]

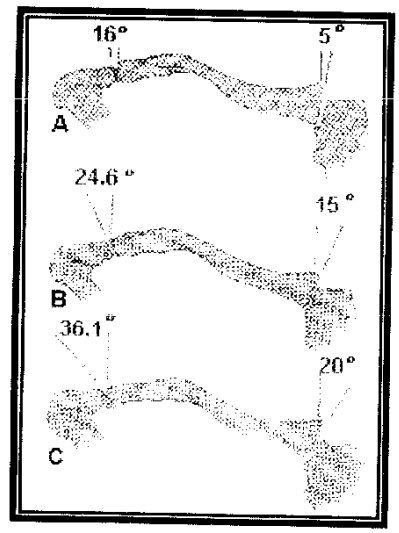

Fig. 1-1, (*DePalma, A. F., 1983*). [9]