

Current Trends in Management of Anterior Shoulder Instability

Essay

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By

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَقُلْ اَعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ
وَرَسُولُهُ وَالْمُؤْمِنُونَ

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List of Abbreviations:

Abd	Abduction
AbER	Abduction External Rotation
AC	Acromio-Clavicular
Add	Adduction
AdIR	Adduction Internal Rotation
ALPSA	Anterior Labro-ligamentous Periosteal Sleeve Avulsion
BHAGL	Bony Humeral Avulsion of Glenohumeral Ligament
CA	Coraco Acromial
CHL	Coracohumeral ligament
GAGL	Glenoid Avulsion of Glenohumeral Ligament
GH	Glenohumeral
GLAD	Glenoid Labral Articular Disruption
GLOM	Glenoid Ovoid Mass
HAGL	Humeral Avulsion of Glenohumeral Ligament
IGHL	Inferior Glenohumeral ligament
MGHL	Middle Glenohumeral ligament
MRA	Magnetic Resonance Arthrography
MRI	Magnetic Resonance Imaging
NSAID	Non-Steroidal Anti-Inflammatory Drugs
ROM	Range of Motion
SGHL	Superior Glenohumeral ligament
SLAP	Superior Labral from Anterior Posterior

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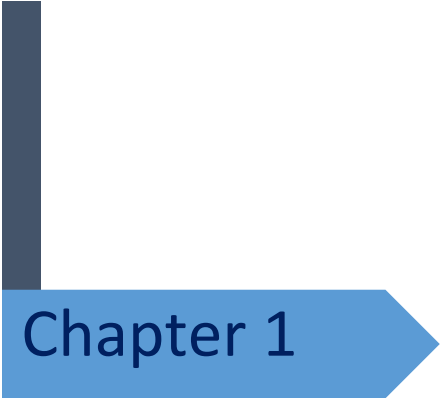
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Abstract:

The glenohumeral joint is innately complex and comprised of both static and dynamic stabilizers. Anterior glenohumeral instability has been estimated to have an incidence of 11.2 cases per 100,000 persons and typically follows a traumatic injury. Although there are specific instances when conservative management is advocated, a majority of these patients are treated with operative stabilization. Recent advancements in arthroscopy have created a shift from the traditional open stabilization procedures towards more minimally invasive arthroscopic stabilization procedures. This comprehensive review will summarize current concepts involved in evaluating patients with anterior glenohumeral instability and specifically focus on those patients who suffer from recurrent instability.

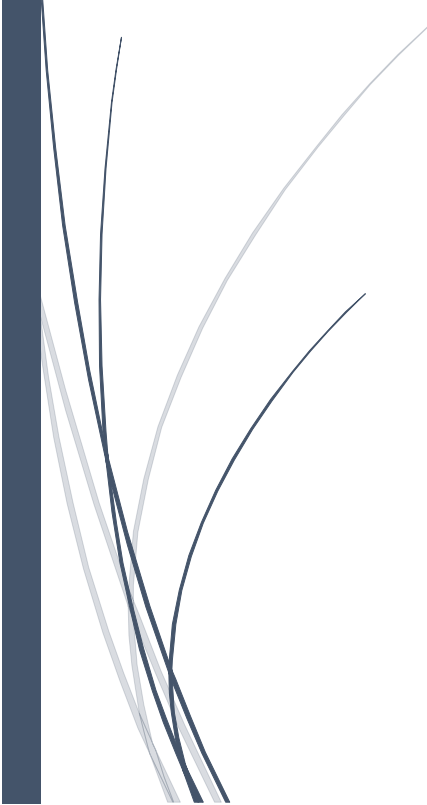
Keywords:

Anterior glenohumeral instability, shoulder dislocation, anterior shoulder instability, bankart repair, latarjet repair.

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Chapter 1

Introduction

Several thin, curved lines in dark blue and light grey originate from the bottom left corner and sweep upwards and to the right, creating a sense of movement and design.

Introduction

The glenohumeral joint is a relatively unstable joint comprising mainly of an articulation between the humeral head and the glenoid cavity in a ball and socket type articulation in which, at any given time, less than 30% of the humeral head is in contact with the glenoid cavity ^[1].

The glenohumeral joint relies on a complex network of static and dynamic structures that aid in stabilizing the joint. Compromise of these structures leads to dislocation and often, recurrent instability. Structures providing static stability to the glenohumeral joint include the congruency of the humeral head and glenoid, the glenoid labrum, glenohumeral ligaments surrounding the joint, and negative intra-articular pressure ^[2-5].

Once the condition is clearly defined, its features can be studied and categorized into classification systems. Instability classification systems should alert us to specific anatomical features for each injury pattern ^[6].

Traumatic dislocations of the shoulder are frequent. The annual incidence is estimated at 11–24 per 100,000 ^[7]. Other publishers report a higher incidence of shoulder dislocations, incidence of about 56.3 per 100,000 ^[8].

By far the most common type of glenohumeral instability is anterior dislocation, accounting for over 90% of all shoulder dislocations^[9].

The injury pattern varies depending on the patient's age. In younger patients, injuries of the anterior capsular labrum complex are most common. Also (Bankart – Perthes – Anterior Labroligamentous Periosteal Sleeve Avulsion [ALPSA] – Superior Labral Anterior Posterior [SLAP] - Glenoid Labral Articular Disruption [GLAD] - Bony Bankart – Humeral Avulsion of Glenohumeral Ligament [HAGL]) lesions can be identified^[10]

A precise history and clinical examination provides valuable information, but determination of the neurovascular status is of greatest importance.

At the time of the initial event, a true AP x-ray is usually sufficient for diagnosis, but later, an MRI is the investigation of choice to determine the concurrent lesion and/or the presence of glenoid or humeral bone loss.

Treatment of anterior shoulder instability can be operative or non-operative, with outcomes depending on the age of the patient, gender, concurrent lesions and the size of glenoid

and/or humeral bone loss. The common surgical interventions address the labral tears as well as the capsular laxity, which are generally the basic underlying pathologies.^[11-13]

The most common soft lesion (Bankart lesion) referring to anterior labral tear ^[14], is most commonly treated by open or arthroscopic Bankart repair, which have shown similar long term outcomes ^[15].

Various surgical treatment options exist for the treatment of bone loss lesions such as coracoid transfer, tibial auto graft, iliac crest auto graft, or osteochondral allograft. Each procedure has its own set of complications but has demonstrated improved recurrence rates in this patient population ^[16].

Several complications may occur after surgery, creating difficult situations for patients as they attempt to return to athletic activity. Common issues, including nerve injury, chondrolysis, incomplete treatment of associated lesions, hardware failure, decreased strength or range of motion, persistent pain, degenerative arthritis, infection, and subscapularis dysfunction, remain problematic within the realm of shoulder stabilization surgery ^[17].

Aim of work

A discussion of the various dimensions of the problem of anterior shoulder instability, and the current trends in its management.

Chapter 2

Anatomy and Biomechanics

A. Anatomy

1. The Pectoral Girdle:

Set of bones that connect to arm to the axial skeleton, it consists of both clavicles and scapulae these bones articulate together forming multiple articulations (Acromioclavicular joint, glenohumeral joint, scapulothoracic joint and sternoclavicular joints.) **Fig (1.1)**

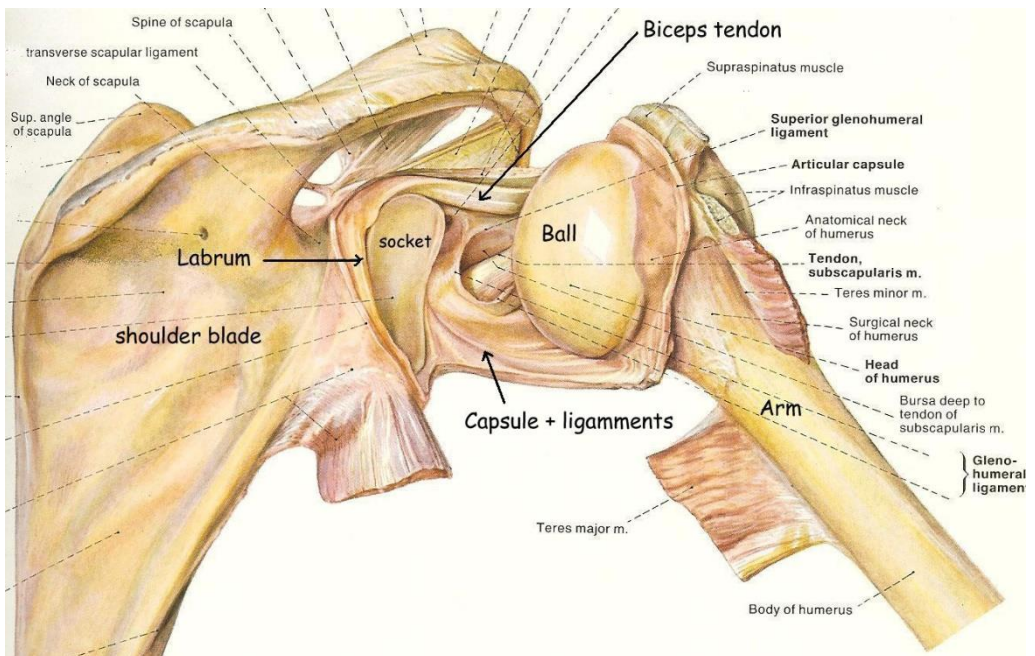


Fig (1.1) Anatomy of the shoulder girdle^[18]