Overview of the Unstable Shoulder

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Ⅰ. Definition

- Laxity : Normal glenohumeral translation
- Instability : Pathological increase in translation

Ⅱ. Classification

1. Type
   a. TUBS
      Traumatic Unidirectional instability
      with a Bankart's lesion and respond to Surgery
   b. AMBRI
      Atraumatic Multidirectional, often Bilateral lesion,
      responding to Rehabilitation
2. Direction
   a. Anterior
   b. Posterior : Less than 5%
   c. Multidirectional
3. Involuntary : Passive motion of the arm can reproduce the instability pattern
   Voluntary : Instability by voluntary contracting selected muscles 50% personality disorders
4. Chronicity
   a. Acute
   b. Recurrent

Ⅲ. Pathophysiology

A. Stability
   1. Glenohumeral ligament
   2. Glenoid labrum
   3. Bony spatial orientation
   4. Muscular compression

5. Intraarticular pressure

B. Glenohumeral ligament
1. Superior and Middle GHL : Control inferior displacement in adduction
2. Inferior GHL : Primary static restraint to AP displacement in abduction
   a. Anteroinferior — Anterior instability
   b. Axillary pouch — Multidirectional instability
   c. Posteroinferior — Posterior instability

Ⅳ. Diagnosis

A. Approach to the problem
1. Age of onset of symptoms
2. Predisposing factors
3. Freguency of symptoms
4. Directions of the instability
5. Degree

B. Physical examination
1. Tenderness
2. Range of motion
3. Crepitus
4. Muscle strength
5. Impingement sign
6. Apprehension test : most sensitive
7. Glenohumeral translation test
   a. Anterior and posterior drawer test
   b. sulcus sign : multidirectional instability

C. Imaging
1. Plain radiographs
2. CT arthography
3. MRI
4. MRI arthrography

D. Arthroscopy

- Dynamic assessment of degree and direction
- Underlying pathology

V. Treatment

- Conservative vs Operative treatment?
- Open vs Arthroscopic procedures?
- Which of arthroscopic techniques?

A. Conservative treatment

- High recurrence rate in acute anterior dislocation
- Increase dynamic joint stability by progressive resistance exercise for 6~12 months in multidirectional instability

B. Open method

- Bankart repair
- Subscapular shortening
- Muscle-tendon sling procedures
- Bone block procedures
- Osteotomies
- Muscle transfer procedures
- Capsular shift procedures

→ Similar recurrence rate

→ Procedure should be chosen that allows maximum ROM and function with few complications

C. Arthroscopic treatment

- Low morbidity and complication rate
- Regain full ROM
- More through examination of glenohumeral joint and subacromial space
- Shorter hospitalization
- Greater cosmesis
- Higher failure rate

due to improper patient selection and errors in surgical techniques

1. Staple Capsulorrhaphy

- Higher complicaton and failure rate

2. Multiple suture technique
   - Repair pathology
   - Poor fixation
3. Biodegradable tack
   - Easiest procedure
   - Short lasting tack
   - Cause synovitis
4. Suture anchor capsulorrhaphy
   - Repair pathology
   - Good fixation
   - Technical difficulty

Ⅵ. Conclusions

In order to treat unstable shoulder

- Identify the insufficient stability mechanisms and underlying pathology
- Provide an appropriate corrective process
  whether treating with exercise or surgery,
  whether operating by open or arthroscopic means.

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