

◁심포지움 I (Shoulder Instability) 09:00 ~ 09:10▷

Classification and Evaluation of Glenohumeral Instability

김 승 호

성균관대학교 의과대학 삼성서울병원 정형외과

Classification

- A. Degree of instability
 - 1. Dislocation
 - 2. Subluxation
- B. Chronicity of instability
 - 1. Acute
 - 2. Chronic
 - 3. Locked
 - 4. Recurrent
- C. Contributing factors
 - 1. Traumatic
 - 2. Atraumatic
 - 3. Voluntary
 - 4. Involuntary
 - 5. Neuromuscular
- D. Direction of instability
 - 1. Anterior
 - subcoracoid
 - subglenoid
 - subclavicular
 - intrathoracic
 - 2. Posterior
 - subacromial
 - subglenoid
 - subspinous
 - 3. Inferior
 - 4. Superior

Laxity v.s Instability

Laxity: normal joint play, asymptomatic

Instability: abnormal motion beyond control, symptomatic

Subluxation

Dislocation

In normal asymptomatic athletes
posterior subluxation : 55%
asymmetric posterior subluxation : 10%
sulcus sign grade II men : 46%
women : 54%
posterior subluxation & Grade III sulcus sign : 5%
(McFarland, EG. Am J Sports Med 24: 468-71, 1996)

TUBS VS AMBRII

TUBS

Traumatic

Unilateral instability

Bankart lesion

Surgery

AMBRII

Atraumatic

Multidirectional

Bilateral

Rehabilitation

Inferior capsular shift

rotator Interval Closure

Classic Manifestation

Classic TUBS

Frank dislocation, reduction by another person painful subluxation, self-reduction

Positive apprehension test

Negative anterior or posterior drawer test

No sulcus sign

No generalized hyperlaxity

No glenohumeral hyperlaxity (contralateral shoulder)

Major trauma

Pathology: failure at glenoid (Bankart, ALPSA, Perthe lesion)

AIGHL or at humeral head (HAGL)

1) Anterior instability: Hill-Sachs lesion

2) Posterior instability: posterior Bankart,
anteromedial humeral head compression fracture

Classic AMBRII

Subluxation, self-reduction

Positive apprehension test in at least two directions.

Positive anterior, posterior and inferior drawer test

Positive sulcus sign (>grade 2)

Generalized hyperlaxity or glenohumeral hyperlaxity

Thumb-to-forearm < 4cm

Elbow hyperextension >10
Knee hyperextension >10
2nd metacarpophalangeal extension 90
No trauma or only very minor trauma (repetitive microtrauma)
Usually no labral lesion
Opening of the rotator interval
Patulous capsule

Classification of Posterior Instability

1. Acute posterior dislocation
 - without impression defect
 - with impression defect
2. Chronic posterior dislocation
 - locked (missed) with impression defect
3. Recurrent posterior subluxation
 - A. Voluntary
 - habitual (willful)
 - muscular control (not willful)
 - B. Involuntary
 - positional (demonstrable)
 - nonpositional (not demonstrable)

Classification of MDI

Direction and Degree

- | | | |
|------|-----|--|
| Type | I: | global instability, 3 direction |
| | II: | anterior & inferior, mild posteroinferior |
| | II: | posterior & inferior, mild anteroinferior |
| | IV: | anterior & posterior, without significant inferior translation |

Etiology

Atraumatic onset

Traumatic onset

Evaluation of the Unstable Shoulder

Most patients: diagnosis may be obvious

More subtle instability: may be troublesome

Careful history and physical examinations are hallmarks

History

- Chief complaint: Is it pain? Is it looseness?
Does it related to a certain activity?
Is it sudden or insidious onset?

How much does it limit your activity?

Frequent dislocator

First episode: When? Trauma-related or not
Was it dislocation or subluxation?
How was the shoulder reduced?
By other person, By him/herself
Age at initial episode

Frequency

Position when dislocated

Can you make it on purpose?

Overhead throwers pain

Which position: cocking or follow-throw
Back or front of the shoulder

Physical examination

Inspection muscle atrophy acromioclavicular joint

Palpation tuberosity bicipital groove AC joint

Range of motion

forward elevation external rotation arm at side and 90° abduction

internal rotation (spine level)

Strength test Supraspinatus: full can test

External rotator: -45° of humeral rotation with the arm at side

Subscapularis: lift-off test

Neurologic examination

Special test

Apprehension test: anterior, posterior, inferior

Apprehension-relocation test

Load-shift test: anterior and posterior translation, inferior sulcus

Impingement sign: Neer, Hawkins

Impingement test: differential diagnosis in overhead athletes shoulder pain

Examinations for SLAP lesion

Compression-rotation (Snyder)

Crank test (Liu)

SLAPprehension test (Berg)

Active compression test (O'Brien)

Anterior slide test (Kibler)

Biceps load test (Kim)

Radiographic examination

Plane radiographs

MRI

MR-arthrogram

Examination under anesthesia

Degree of translation

Direction of translation

Arthroscopic examination

Not for the diagnosis

Site and degree of pathologic lesions

Failure pattern: classic or bony Bankart lesion

Ligament tear, HAGL lesion

Insufficiency laxity

Combined lesion: superior labral lesion

rotator cuff tear

loose bodies, chondral lesion