≪심포지움 I (Shoulder Instability) 09:55 ~ 10:03≫

OPEN REPAIR IN ANTERIOR INSTABILITY

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Surgical Options in Anterior Instability

- Capsular procedure
  - Bankarts repair
  - Capsular shift
- Muscular procedure
  - Subscapularis transfer
  - Bristow
- Bone procedure
  - Humeral --- Derotational osteotomy
    - Osteochondral allograft
  - Glenoid --- Bone block
    - Bristow
    - Osteotomy

Capsular Procedure

- Primary procedure for almost all cases of involuntary instability.
- Restores the capsular attachment and ligamentous length.
- Success rate over 95%

Bone / Muscular Procedure

- Secondary or salvage procedure
- Indicated in special situations (rare)
  - ex) Large glenoid bone loss
    - Glenoid dysplasia
    - Huge Hill-Sachs lesion

Bankarts Repair

Br Med J 1923 ; Br J Surg 1938

- Coracoid osteotomy and inferomedial retraction of the conjoint tendon
- SubS tendon division from bone
- Capsule incision parallel to glenoid
- Lateral c. flap repair to glenoid rim
- Immobilization for 4 wks

Bankarts Repair

Currently performed

- Axillary incision
- No coracoid osteotomy
- Variations in the method of capsular incision (medial lateral, lateral as one unit w/ SubS tendon)

Whats changed ?

Understanding of pathomechanism

- Multidirectional instability (C.Neer)
- TUBS AMBRI (F. Matsen)
- TUBS/AMBRI does not encompass all the gamut of nstabillty, s/a AMBRI + TUBS, Acquired instability, TUBS w/ capsular stretching

Arthroscopic capsular repair

- Improved success rate after mid- 90s after initial high failure rate of 20 50% in North America, but still lower success rate than open procedure.
- Performance factor high
- For what ? / Does it help the patient ?

Technique

- Examination under anesthesia
  - Load and shift test in varying degrees of abduction / ER
- Dx. arthroscopy optional
  - Confirmation of Dx
  - Check for asssociated pathology
- Semi-supine position with the shoulder off edge of the table
- Anterior axillary incision
- Deltopectoral interval
  - Cephalic v. may be buried in fat
- Incision of clavipectoral fascia
- Med. retraction of conjoint tendon and lateral retraction of deltoid
- Division of anterior band of CA lig. for exposure of rotator interval
- Removal of bursae
- Define the superior and inferior margins of SubS tendon
  - Leash of vessels at inf. margin
- SubS tenotomy 2 cm medial to LT
- Separation of SubS tendon from the anterior capsule
  - Start from inferior portion

- Tagging and medial retracion of Subs tendon exposes anterior capsule covered by bursae.

Division of capsule from humerus

- Medial (C. Rowe) --- Original
  - Just off the glenoid lip

- Lateral (C. Neer)
  - 1 cm from humerus
- Middle (C. Rockwood)

Medial Capsulotomy

- Capsular division at full ER
  - If not, it may not be possible to repair the lateral flap to glenoid in ER, which causes limited ER.
- Full ER in 70% (C. Rowe)
- More ER lim. in Abd (A. Deutsch)

Lateral Capsulotomy

- From RI to 6 oclock or over
- Versatile approach
  - Pure Bankarts repair
  - Neer shift by T
  - Bankart + shift
    - Can titrate capsular tightness.
- Retraction of humeral head with a humeral head retractor
- Exposure of Bankarts lesion
  - Frequently, there is no labral tissue and the glenoid rim is eburnated, flattened or rounded.
- Capsulolabral tissue may be adhered to scapular neck, which should be freed.
- Preparation of glenoid rim and scapular neck w/ a burr or chiesel
- Drill holes or suture anchors
- Passage of permanent suture through capsule after superolateral traction of the capsular flap
- Knot-tying extra-articularly
  - Bumper suture
- Closure of capsule at 45 ° Abd/ ER, more ER in overhead atheletes.
- Shift if capsular redundancy remains after Bankarts repair either by superior shift or T-incision, i.e., titration of capsular volume.

Rahabilitation

- Passive FE/pendulum from day 1
- Combine passive ER from 1 ~ 2 wk
- Active motion from 4 wks
- Resistive exercise from 6 ~8 wks
- Free weight from 10 ~ 12 wks

Surgical Complication

- Subscapualris detachment
  - Avoidance of active motion is to protect the subscapularis rather than the capsular repair.

- Sudden increase of passive ER
- Early repair is mandatory.

• Stiffness
  - Mostly preventable by early passive motion
  - May be related to biological characteristic of an individual.
• Axillary nerve injury
  - Usually neuropraxia

Result of Open Repair

• Should be evaluated not by recurrence rate but by restoration of function.
• Recurrence rate : 2 ~ 5 %
  - Missed or uncorrected pathology
  - Patient and rehab. Factor
• The most common cause of poor result is decreased range of motion, especially ER.
• The patients with poor results preferred preop. loose shoulder to the stiff shoulder (Gill, 1997)