Arthroscopic Posterior Capsular Shift for Posterior Instability

Seung-Ho Kim, MD

Dept. of Orthopaedic Surgery
Sungkyunkwan University
Samsung Medical Center
smcknot@hotmail.com

Posterior Instability

- 2-4% of shoulder instability
- Unclear Diagnosis, Pathology, Classification, and Treatment
- Circle concept
- Instability / Laxity
- Not always require operation
- Not as apprehensive as anterior instability
- Less common labral lesion
- Exercise does not eliminate instability but improves symptoms

Pathoantomy

- Anterior superior capsule: Warren RF
- Posterior inferior capsule: Schwartz E
- Rotator interval capsule: Harryman DT II, Nobuhara K
- Excessive joint volume: Gibb TD

Classification

- Acute posterior dislocation
  - Without impression defect
  - With impression defect
- Chronic posterior dislocation
  - Locked (missed) with impression defect
- Recurrent posterior subluxation

Voluntary

Habitual (Willful)

Muscular control (not willful)

Involuntary

Positional (demonstrable)

Nonpositional (not demonstrable)

Classification *"Treatment-oriented"*

Recurrent posterior subluxation

- Unidirectional posterior: Traumatic
- Bidirectional posteroinferior: Atraumatic

Diagnosis

History

- Initial presentation: No significant trauma requiring reduction
- Gradual onset: can learn to demonstrate

Physical signs

- Demonstratable: Muscular control, Positional
- Not demonstratable: Posterior jerk test
- Inferior translation test: sulcus sign

Arthroscopic Finding

- Capsular stretching
- Posteroinferior labral crack
- Flap tear
- Frank reverse Bankart lesion
- Capsular stretching

Indication for Surgery

Symptomatic patients after at least 6 months of rehabilitation

Treatment Options

- Posterior capsular infraspinatus tenodesis (reverse Putti-Platt)
- Posterior glenoid osteotomy
- Posterior inferior capsular shift
- Arthroscopic capsular shift / plication

Why Arthroscopy

"You can see what you need to do"

Lesion-specific Approach

- Unidirectional posterior instability
  :Posterior capsulolabral lesions
  → Posterior capsular shift
- Posteroinferior
  Posterior capsulolabral lesions
  Global looseness
  → Posterior / Inferior capsular shift and / or rotator interval closure

Arthroscopic Treatment

- Healing promoter: shaver, rasp, heat
- Vertical shift
- Posterior band of IGHL included part of repair
- Posterior capsule onto base of biceps root

SMC Experience

Traumatic Unidirectional Posterior Recurrent Subluxation

- 27 shoulders (25M / 2F)
- Age: 21 years old. (range,14-33; SD, 4 years)
- Dominant arm: 70%
- All in sports activity (7 recreational, 6 high school, 12 collegiate, 2 pro)
- Trauma: 24 macro, 3 repetitive minor
- Symptoms: instability 22 (82%), pain 3 (11%), both 2 (7%)
- Posterior load-shift test: All +
- Grade 2+ or less posterior translation
- Sulcus: 0, No generalized laxity
- Normal contralateral shoulder

- MR-arthrogram: 3 types
  - Type I: Separation without displacement
  - Type II: Incomplete avulsion (cystic lesion)
  - Type III: Loss of contour

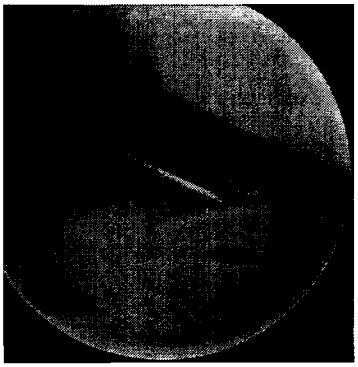
  Enlarged posterior pouch (11 pts)

Type I

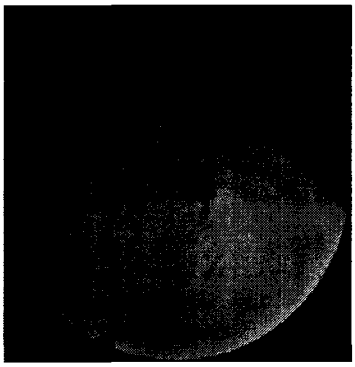
Type II

Type III

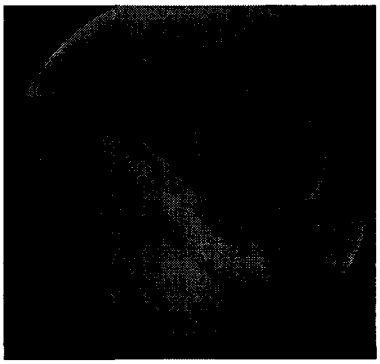
- Arthroscopic Classification: 4 types
  - Type I: Incomplete stripping
  - Type II: Marginal crack (Kim's lesion)
  - Type III: Chondrolabral erosion
  - Type IV: Flap tear



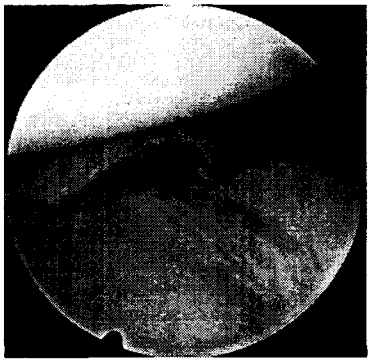
Type I



Type II



Type III



Type IV

MR versus Arthroscopic Findings

- MR Type I: Separation without displacement
- AS Type I: Incomplete stripping

MR versus Arthroscopic Findings

- MR Type II: Incomplete avulsion (Cystic lesion)
- AS Type II: Marginal crack (Kim's lesion)