Arthroscopic Treatment of SLAP Lesion (Type II)

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I. Definition

SLAP (Snyder S J)

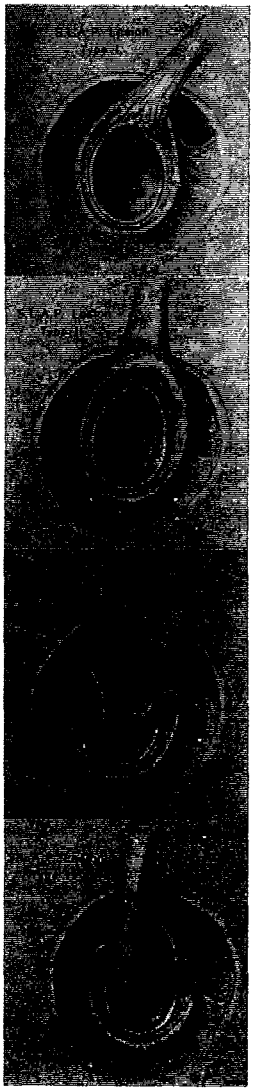
· tear in Superior Labrum from Anterior to Posterior
· rare - 27/7000 shoulder arthroscopy by Snyder at Karzel

Glenoid labrum

· primary attchment for glenohumeral ligamnets and biceps superiorly
· significant anatomic variant around the periphery
  - loosely attched superiorly
  - tightly attched inferiorly
· labrum increases the depth of glenoid cavity by 50%

Factors predisposing superior labrum to injury

· biceps anchors : large force through biceps cause pathology
· poor vascularity of superior labrum
  -poor healing
· continued pull of biceps
  -prevent healing



II. Classification

Type I
· Fraying and degenerative sup. labrum
· Intact labral edge and biceps tendon anchor

Type II
· Detachment of bicpes anchor from glenoid
· Labrum-biceps complex arches away from underlying glenoid

Type III
· Bucket-handle tear, but with an intact biceps-labral complex

Type IV
· Bucket-handle tear of sup. labrum which extend into biceps tendon
· spilt or displacement of biceps tendon

Complex
· combination of previous type

III. Mechanism of Injury (Snyder S J)

· Fall onto an outstretched arm
· Sudden pull on the arm
· Repeated trauma or tension
· Degenerating due to age
· Hyperflexion injury (Paulos in gymnasts)

IV. Diagnosis

· History
  - Nonspecific
· Physical Examination
  - Nonspecific

History and Examination

- nonspecific shoulder pain increased with overhead activities
- may complain of catching or popping
- pain to resisted biceps contraction
- painful click or catching
- exclude other diagnosis

Associated lesions

- Rotator cuff tear
- Loose bodies
- Bankart lesion
- chondromalacia
- biceps tendon tear
- Impingement syndrome

V. Treatment of SLAP lesion

- **Type I**
  - -Debride labrum
- **Type II**
  - -debride labrum
  - -decorticate superior glenoid neck
  - -fixation device or suture
- **Type III**
  - -resection of the Bucket handle tear
- **Type IV**
  - -resection of torn labrum and biceps tendon
  - -biceps tenodesis or suture repair

Suture method in SLAP Type II

- Scope method
  - -Direct fixation
    - : Suretec, Revomini (Synder)
      Transglenoid Technique (Rhee)
- Scalpel : ???

Transglenoid suture technique for SLAP Type II

(Rhee' s method, 1993)

- 2 stiches :
  post. labrum ⟶ drill holes (12:30 - 1:30)
  biceps tendon
- 2 stiches :
  ant. labrum ⟶ drill holes (1:00 - 2:00)
  biceps tendon

Cadeveric studies for prevention of suprascapular nerve injury

(K. J. Rhee, 1997)

- In SLAP Type II repair
  - -Site : Rt - 2, just above 2 o clock
    Lt -10, just above 10 o clock
  - -Direction : parallel to glenoid cavity & slightly superior in horizontal plane
  - -Tieing site in SLAP type II repair : lateral side on scapula spine

Postoperative Care

- Shoulder immobilizer or sling for 6 weeks
- Full ROM at 12 weeks
- Overhead action at 6 months
- Athletes should avoid contact and collision sports for 1 year

VI. Author's experience

Patient Demographies

- Incidentally found 38 patients of SLAP lesion for arthroscopic treatment of recurrent shoulder D/L , impingement syndrome or SLAP (168 patients)
- from March 1989 to January 1997 in CNUH
- Average follow-up : 36 months (range, 12 to 72)
- Male/Female ratio - 33 : 5
- Average age : 26 yrs. (range, 17 - 47)
- Average time from injury to surgery : 28 months

Initial Dx (▶ found SLAP lesion)

- Impingement : 31 ▶ 8
- shoulder instability :112 ▶ 25
- SLAP : 5 ▶ 5

Mechanism of injury

- Trauma : 32 Patients
- No specific accident : 6 Patients.

MR-Arthrography for SLAP lesion

(CNUH)

- Sensitivity : 71 %
- Specificity : 60 %

Author's Treatment

- Type I or III
  - Debridement
- Type II or IV
  1. Suture fixation
  2. with Bankart lesion
     - extended multiple suture

Author's Treatment cases

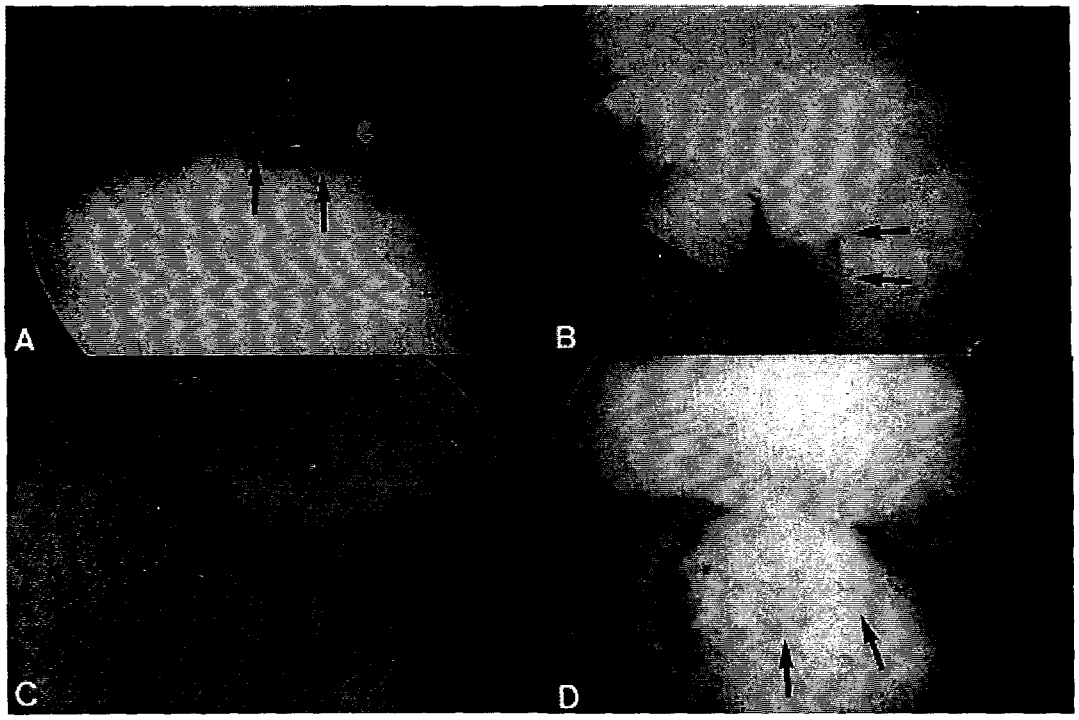
- Suture fixation : 12 cases
- Biodegradable tack : 2 cases
- Debridement : 26 cases

Repair of type II SLAP lesions through transglenoid suture technique

Steps in repairing the type II SLAP lesion

① Standard anterior and posterior portals
anterior : just behind the biceps tendon
② debride degenerative labral and biceps tendon
③ lightly abrade superior rim of glenoid neck adjacent to articular cartilage
④ 2 anterior sutures on labrum and biceps
2 posterior sutures on labrum and biceps by suture hooks

⑤ Pass anterior two sutures : through transglenoid
pass posterior two sutures : transscapular with Beath pin
⑥ tie on the back of scapula (spine of scapula)



Result according to individual Tx.
· Suture fixation : satisfaction - 9/12
· Biodegradable tack : satisfaction - 1/2
· Debridement : satisfaction - 23/26

VII. Discussion
· Sole SLAP type II : ant. subluxation
· Bankart lesion with SLAP type II
- recurrent subluxation after Bankart repair only
· SLAP type II is the one etiology of subluxation of shoulder
· The type II SLAP lesion in frequently associated with Bankart lesion in anterior instability (TUBS)
· Arthroscopic fixation of superior labrum and Biceps tendon by transglenoid technique is one of the acceptable method

SLAP lesion
· Increasing incidence of combination with bankart lesion by arthroscopy

Arthroscopic evaluation
· Avoid overdiagnosis : normal anatomy
· Type I increase progressively with age
· Look for evidence of trauma

VIII. Conclusion
In previous report, the SLAP lesion is quite rare in diagnostic arthroscopy, but our study reveals that these lesion is not uncommon in instability or impingement of shoulder

Arthroscopic transglenoid and transscapular suture technique (Rhees method) for type II SLAP lesion as one of new method of suture for type II SLAP lesion.