SLAP
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Superior Labrum

- Biceps labrum complex attaches to the superior glenoid
- Variable attachment
- Difficult to diagnose and treat
- Must continue to evolve

Variety of Labral/Biceps Pathology

- SLAP Tear
- Tendinitis
Biceps Pathology

- Tendinopathy/Delamination
- Tear/Rupture

Biceps Pathology

- Subluxation
- Dislocation
- Entrapment

Is the SLAP/Biceps pathologic?

- Are the History, PE and diagnostic studies consistent with SLAP/Biceps Labral pathology
Consistency

• History
  – Overhead athlete
  – Laborer
  – Pulling injury to the arm
  – Pain
  – Mechanical Symptoms
  – +/- instability
• If the history doesn’t make sense, ? diagnosis

Consistency

• Exam
  – Pain
    • Anterior
    • Deep->key
    • Often vague
    • Biceps signs can be +
  – O’Brien’s
    • Down -> up
    • Conversion
    – 90/90

Consistency

• Radiology
  – XR often neg
  – MRI w或 w/o
    • Can see paralabral cyst
    • Can be negative
SLAP Tear

- IF the Hx, PE and the MRI are consistent with a SLAP tear it is likely real.
- If there is ambiguity a GH cortisone shot can be extremely helpful.
  - Engage the patient.

So the SLAP tear is real?

- Non operative
  - Medications
    - NSAIDS
    - Steroid taper
  - Cortisone injection
  - Activity Modification
  - Physical Therapy
- Operative
  - Debridement
  - Repair
  - Biceps Tenotomy
  - Biceps Tenodesis

Operative Treatment

- Repair the SLAP
  - Isolation
  - With Biceps Tenotomy
  - With Biceps Tenodesis
- Biceps release
  - Tenotomy
  - Tenodesis
Operative Treatment

• Repair SLAP alone
  – Unstable tears in young patients
  – Overhead athletes
  – Avoid biceps overconstraint
  – Trending toward knotless anchors
    • Portal of Wilmington
    • Small cannulas
    • Stay medial

Operative Treatment

• Repair SLAP and release biceps
  – All “older” patients
  – Unstable, mobile SLAP tears and those extending posteriorly
  – Ultra low threshold in non overhead athletes
  – Caution
    • Overhead athletes
    • Instability

Operative Treatment

• Release Biceps and debride SLAP
  – “More” stable isolated type II tears
  – Degenerative tears in older patients
  – Patients with pain and wanting a shorter recovery
  – Predictable
Biceps Fate

- Tenotomy
  - Simple
  - Efficient
  - Predictable
  - Expedious Rehab
  - Popeye deformity

- Tenodesis
  - Proximal
  - Groove
  - Subpec
  - Simple
  - Efficient
  - Predictable
  - Restores contour
  - Dramatic change in rehab timeline if no associated SLAP repair

I discuss both options with the patient preoperatively when it could go either way:
- Are they OK with a Popeye deformity?
- Do they do repetitive activity?
- Are they OK with a longer rehab?
  - Given lack of marked difference may consider both options and base on other concomitant treatment.

Tenotomy vs. Tenodesis

- Isokinetic strength, endurance and subjective outcomes after biceps tenotomy versus tenodesis
- Wittstein, et al. AJSM, 2011
- Postoperative Study
- Tenotomy (19 pts) vs Tenodesis (16 pts) with contralateral limb as control
Wittstein, et al

- Subjective outcome scores were similar
- Supination peak torque was diminished in tenotomy side
- 4 tenotomy popeye deformity (2 with painful cramping)
- 2 tenodesis with pain at site
- Cone-Similar subjective outcome scores. Tenotomy decreases peak torque relative to native and tenodesed state

Tenotomy vs. Tenodesis

- Frost et al, AJSM, 2009
- Lesions of LHB
- Review of all peer reviewed journal articles
- Coleman Methodology Score-analyzes quality of studies reviewed, accurate and reproducible
- Scores low for quality of study(outcome measures and #’s poor)
- Lack of evidence to suggest one technique
- Thus, rec tenotomy as it is quick, easy and requires less rehab

Rehab

- SLAP repair
  - 1st Month
    - 90/90 PROM, no ER
  - 2nd Month
    - Begin full active motion with goal full AROM at end of month
  - 3rd Month
    - Strengthening
    - 4 months
      - No restrictions, WEAN to normal activities
      - Start Throwing Program
- SLAP repair, Biceps Tenodesis
  - No ROM restrictions
  - No resisted elbow flexion x 10-12w
- Biceps Tenotomy
  - No restrictions
  - Progress as tolerated
  - Goal-full recovery 4-8w
Summary

• Difficult Diagnosis
• Multiple different treatment options
• Opportunity

Thank You

Orthopaedics & Sports Medicine