Suprascapular Nerve Decompression

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Suprascapular Nerve Decompression

Disclosure

- None relevant to this presentation

Anatomy

- Upper trunk brachial plexus: C5, C6
  - Motor AND sensory
  - Supplies supraspinatus / infraspinatus
- Deep to transverse scapular ligament in suprascapular notch
- 3 cm medial to supraglenoid tubercle
- 1.8 cm medial to posterior glenoid at base of scapular spine
Pathophysiology

- Traction neuropathy
  - Acute traumatic
  - Chronic repetitive, overhead athletes
  - Chronic static: retracted superior / posterior rotator cuff tear
- Compression neuropathy
  - Space – occupying lesion
    - Paralabral ganglion cyst
    - Hypertrophy / ossification of TSL
    - Stenosis of suprascapular notch
  - Parsonage - Turner

History and Physical Exam

- Vague posteriorly or superiorly – based shoulder pain
- Visible atrophy in infraspinatus fossa
- Weakness with external rotation in neutral abduction
- SSN Stretch Test (LaFosse)

Imaging

- MRI most useful
  - Evaluation of space – occupying lesions
  - Labrum
  - Supraspinatus and infraspinatus muscle bellies
    - Edema
    - Fatty infiltration
    - Atrophy
- CT for scapular notch
EMG / NCV
- Standard for diagnosis
- Specifically indicate SSN
- Indicated even with circumstantial evidence of SSN compression on MRI
- Changes identified in 8 - 100% of massive RCT
- Present in up to 33% of OH athletic population

Elements of Diagnosis
- Symptoms / signs consistent with SSN compression
- MRI findings
  - Presence of space – occupying lesion
  - Edema / atrophy / fatty infiltration in supraspinatus and / or infraspinatus
- EMG findings consistent with SSN compression

Treatment Options
- Non – operative, observation, PT
- Guided aspiration
- Open release / decompression
- Arthroscopic release / decompression
Arthroscopic Decompression

- Suprascapular Notch
  - Position
    - Beach chair
  - Portals
    - Direct lateral: viewing
    - Anterolateral: dissection, cyst decompression
    - Modified Neviaser Portal 1 (MNP1), medial: retraction of SSA/SSN
    - Modified Neviaser Portal 2 (MNP2), lateral: release of TSL

Arthroscopic Decompression

- Steps
  - Dissect along inferior aspect of distal clavicle until linear fibers of coracoid ligament can be visualized (radiofrequency)
  - Follow posterior fibers of coracoid ligament to TSL; 70° scope useful
  - Establish MNP1 (medial) and retract SSA / SSN with blunt Wissinger rod
  - Establish MNP2 (lateral) and release TSL
Arthroscopic Decompression

- Spinoglenoid Notch
  - Cyst
  - Spinoglenoid ligament
- Position: beach chair
- Portals
  - Direct lateral: viewing
  - Posterolateral: working
  - Posterior: retraction of infraspinatus

Arthroscopic Decompression

- Steps
  - Posterior bursectomy
  - Define scapular spine using radiofrequency
  - Retract infraspinatus muscle belly using probe or blunt Wissinger rod through posterior portal
  - Decompress cyst using punch and/or shaver through posterolateral portal

Post-Operative Rehab

- Early mobilization
- Early isometrics for supraspinatus and infraspinatus activation
- Optional inclusion of NMES as adjunct for supraspinatus and/or infraspinatus activation
- Patience
Conclusions

- Traditionally diagnosis of exclusion
- Suspect in young, active patients with isolated weakness in external rotation and vague posterior shoulder pain
- MRI to assess for space-occupying lesion and muscle belly edema
- EMG to assess suprascapular nerve
- Arthroscopic decompression when indicated

Thank You!