Arthroscopic capsular shift in AMBRII

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OUTLINE

Introduction

"Atraumatic Instability" was first reported as a clinical condition in a report by Neer (JBJS) in 1980. Although there are relatively few long term follow-up studies in the literature, recognition of this type of instability is increasingly important as certainly it is more common than once thought.

Classification:

Several Classification schemes have been promoted to describe various instability patterns.

Types:
Anterior/Posterior/Multidirectional Voluntary/Involuntary
Dislocation/Subluxation
Traumatic/Atraumatic
Ligament Normal/Laxity

Rockwood/Burkhead JBJS 74A 1992

Type I : Traumatic subluxation w/o prior dislocation.

Type II : Traumatic subluxation after previous dislocation

Type IIIA: Atraumatic, voluntary subluxation, + Psych

Type IIIB: Atraumatic, voluntary subluxation, - Psych

Matsen Classification:

TUBS and AMBRII

T - Traumatic
U - Unidirectional
B - Bankart Lesion
S - Surgical Treatment
" Torn Loose "

A - Atraumatic
M - Multidirectional
B - Bilateral
R - Rehabilitation
I - Inferior Capsular Shift
" Born Loose "

Pathology:

- multifactorial
- excessive capsular laxity
- weak rotator cuff
- poor humero-scapular coordinatic
- labral insufficiency
- increased capsular compliance
- biomechanical force malalignment
- genetics/bone dysplasia

History:

- young age 15-25 years
- prevalence female/male
- ? repetitive microtrauma
- sudden inertial change
- sense of 'looseness'
- numbness, tingling, paresthesia
- prior medical eval. EMG, neuro.
- many doctors
- many tests
- many diagnoses
- many therapies
- "impingement" under age 40
- 'Dead Arm Syndrome'

Physical Exam:

- observe BOTH shoulders
- examine BOTH shoulders
- minimal apprehension
- (+) Fakuda (posterior)
- (+) Drawer Sign
- (+) Sulcus
- (+/-) Scapular winging
- (-) impingement sign
- (+) relocation test
- (+) supine/compression/sublux
- (+) Load & Shift test
- normal rotator cuff strength
- hyperextension elbows
- hyperextension M-P joints
- Hyperflexion wrists

Roadiologic Studies:

- plain radiographs to include true AP, axillary (west point)
- doubt need for stress films, joint laxity is not necessarily joint instability
- ? need for Stryker Notch view atraumatic instability
- CT... glenoid bone morphology
- CT Arthrography ...capsular vol labral pathology
- MRI doubt value in diagnosis
- Cine MRI expensive, ?practical
- Fluoroscopy...may aid in determining direction of MAJOR instability, ? specificity

Other Diagnostic Considerations:

-Arthroscopy... this should be a clinical diagnosis
- EMG if objective neuro findings
- MMPI/Psych eval

Non Operative Treatment:

Most (60-70%) can be satisfactorily managed with a well executed exercise program.
The NATURAL HISTORY of atraumatic instability is such that it is unlikely that it well result in DJD. Do not recommed surgery in an asymptomatic instability to prevent DJD. Inappropriate surgery is more likely to result in arthritis than no surgery at all.

- Physical Therapy and Education indefinitely
- must manage pain (synovitis) before initiating PT
- rest (immobilize)
- NSAIDS
- analgesics
- injection
- Strengthening Program to include Deltoid & Rotator Cuff
  Scapular stabilizers
- Role of Cybex/Biodex to objectify strength

Education:
Discuss ligament laxity, impress upon patient that laxity is not instability. Emphasize fact that asymptomatic shoulder has similar laxity, yet functions "normally without pain"

Discuss work and compensation issues.

Results-Non Operative Rx:

Burkhead and Rockwood (JBJS 1992)
88% of atraumatic subl/disl had good or excellent results. Ave time 5-12 weeks.

Yoneda and Welsh reported (JBJS 64-B 1982) nearly 83% satisfactory result with non-operative management ant. instability

Operative Treatment:

Indications:
- failed rehabilitation, min 6 mo.
- painful instability
- psychogenic stability
- understanding risks, complication

Procedure:

- interscalene block
- beachchair position
- anterior approach for all instability patterns, preserves infraspinatus. Consider anterior approach for isolated posterior instability
- develop delto-pectoral interval preserve post. portion C-A lig. oparate ant 2/3 subscap. leave behind post 1/3 subscap endon to reinforce the thin capsule
- close rotator interval
- release capsule from humerus at the anatomic neck

- open capsule into center of the glenoid, form a 'T'
- inspect glenoid and labrum
- release inferior and posterior capsule while externally rotating the arm.

BECAREFUL OF AXILLARY NERVE

create trough of bleeding bone at he anatomic neck for better capsular fixation hold arm in 10 degrees flex. and 40 degrees external rotation
- repair capsule in pants-over-ves fashion, inferior flap first, then the upper flap.
- repair subscapularis at anatomic length
- repair delto-pectoral interval
- standard skin closure, sterile dressing
- apply shoulder spica in the operating room
- discharge home following morning

Arthroscopic procedure
(capsuler shift)

- anterior only
  (2-6 o'clock)
- anterior and posterion capsulor shift (2-6, and 10-6 o'clock,
  . anchor to scapuler spine and to clavicle
  . supra scapular portal (Neviaser)

Arthroscopic lesser surgery
- decrease the volume of collagen

Results:

Neer JBJS 1980, 39/40 shoulders-1 recurrent subuxation at 7 mo.

Brems JBJS 1992 39/43 shoulders good result with no further instability

Arthroscopic procedure - experimental more follow up

Summary
Atriumph of technology over reason?

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