NECK AND UPPER EXTREMITY PAIN

A DIAGNOSTIC REVIEW

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Neck Pain

- Extrinsic: angina, CA/metastasis, etc
- Intrinsic: DDX, HNP, Stenosis, occipital neuritis, myofascial pain syndrome, dystonia/spasm, whiplash, facet syndrome,
- Somatic dysfunctions
- Fractures: atlanto-occipital
Cervical HNP and DDDx

- HNP occurs in 8 per 1000 people annually
- Most common at C 6-7 and C 5-6
- Can be insidious or acute onset
- Spasm, pain, radicular or referred pain is common
- 80 plus percent will resolve within a year without surgery
Cervical Disc

Bulging disc pressing on nerve
Cervical HNP
Cervical Disc
Cervical Anatomy
Cervical Radiculopathy
Cervical Myotomes

C5- biceps

C6- wrist extensors

C7- triceps

C8- finger abductors

T1- finger flexors
Cervical Reflexes

- C5- biceps
- C6- brachioradialis
- C7- triceps
Cervical Stenosis

- Greater than 80 percent of patients over 50 exhibit some degree of stenosis
- Foraminal stenosis vs central canal stenosis
- Radiculopathy with LMN signs
- Myelopathy from canal stenosis with UMN signs
  ......increased DTRs, tone/spasticity, ataxia, babinski, hoffmans, bowel and bladder changes
Cervical Epidurals
Cervical Epidurals
Cervical Epidurals
Cervical Facet Syndromes

- Common source of chronic and acute neck pain
- Headaches and referral patterns are common
- Whiplash type injuries can certainly irritate or injure facets or interspinous ligaments
- Injections under fluoroscopy are very effective
Facet Syndromes
Cervical Facet Injections

Figure 7.3. Mechanical instability of the intervertebral disc allows considerable abnormal flexion and extension at the posterior joints rather than the normal gliding movements. This state, exaggerated in the drawings, can readily lead to acute subluxation and degenerative changes.
Cervical Facets Referral Areas

- C2-3
- C3-4
- C4-5
- C5-6
- C6-7
Cervical Facets
Cervical Facets
Occipital Neuritis

- Common cause of posterior headaches and neck pain
- Bilateral or unilateral nerves involved
- Neuropathic pain agents are somewhat effective
- Injections are very effective and diagnostic as well
Occipital Neuritis
Occipital Neuritis
Occipital Neuritis
Myofascial Pain

- Cervical trigger points are common and can be primary, or related to other underlying pathology such as ddx, oa etc
- Palpation reveals small mass or lump texture in the involved muscle, described as a taut tissue band
- Pressure to TP refers pain to another area
- Mimic radiculopathy, tendinopathies, etc
- Dry needling vs injections vs OMT vs Stretch/spray
Levator Scapulae
Supraspinatus
Rhomboids
Infraspinatus
Upper Extremity Pain

- **Extrinsic**: angina, CA/tumor, etc
- **Intrinsic**: Rotator Cuff, tendonitis, nerve entrapments, radiculopathies, CRP/RSD, myofascial pain
Rotator Cuff Syndromes

- Impingement syndromes are most common problems for shoulders
- Incidence is 25/1000 adults, with peak in fourth thru sixth decades
- Symptoms include pain, weakness, decreased range especially in overhead and internal rotation
- Complete tears are 35 percent of presentations of patients over 45
Muscles of the Rotator Cuff

- Subscapularis
- Supraspinatus
- Infraspinatus
- Teres Minor
A. The biceps tendon and the rotator cuff fraying are debrided arthroscopically using a shaver.

B. A rasp is used to remove the bone spurs from the subacromial space.

C. After the incision, a saw is used to remove 1 cm of the clavicle.

D. The torn portion of the rotator cuff is sewn back onto the humerus.
Acromioclavicular Arthritis

www.shoulderinformation.com
A. A curved incision is made over the distal clavicle and across the acromioclavicular joint.

B. The distal 3/4 inch of the clavicle is excised and removed with a saw.

C. The bursa is then removed to reduced the shoulder impingement.

D. The arthritic end of the acromion is also excised and removed with a saw.
Labrum Tear
Torn Labrum

- Acromion
- Coracoid
- Biceps Tendon
- SLAP Lesion Region
- Glenoid Labrum (Front)
Torn Labrum
Labrum
Torn Labrum
Torn Labrum

Shoulder Arthroscopy

Arthroscope
Severe OA
Shoulder Replacement

Left: Preoperative X-rays of severe rotator cuff tear arthropathy
Right: After treatment with reverse total shoulder replacement
Tendonitis

- Lateral Epicondylitis
- Inflammation at the insertion of the extensor tendons of the forearm/wrist around the radial head and lateral epicondyle of humerus
- Can be acute or chronic, associated with PIN and radial nerve impingements
Lateral Epicondylitis
Lateral Epicondylitis
Medial Epicondylitis

- Pitchers elbow/ golfers elbow
- Ulnar nerve entrapments can be related
- NSAIDS, cox 2, PT, topicals, injections
Medial Epicondylitis

Golfer’s Elbow
(Medial Epicondylitis)
Dequairvains

- Inflammation of conjoined tendon on radial side of wrist....Abd. pollicus longus and Ext. pollicus brevis
- Mimic of CTS
- PT, topicals, NSAID, cox2, injections
De Quervain's Disease

Diagram showing the tendons and thumb bones involved in De Quervain's Disease.
Dequairvains
Dequairvains
Nerve Entrapments

- Carpal tunnel syndrome is most common
- Median nerve passes thru tunnel with wrist flexor tendons
- Splints, nsaids, cox2, injections, PT
Carpal Tunnel
Carpal Tunnel
Anterior Interosseous Nerve

- Branch off the median nerve
- Sensory to the wrist area
- Motor to the Flex. Pollicus Longus, and Flex. Digitorum profundus......as well as pronator quadratus at the wrist.
- Gives flattened ok sign
Pronator Teres Syndrome

- Mimics carpal tunnel syndrome
- Entrapment more proximal of median nerve at elbow under the pronator teres
- EMG to confirm diagnosis
- Repetitive use syndrome
- Conservative care vs surgery
Pronator Teres Syndrome
Pronator Teres
Ulnar Nerve Entrapments

- Cubital tunnel: second most common entrapment in the UE
- Guyon’s canal: pisiform and hamate area of carpals
Cubital Tunnel
Guyons Canal Syndrome
Cubital Tunnel
Cubital Tunnel
Radial nerve entrapment

- Radial nerve passes thru arcade of frohse and under the supinator
- Repetitive supination is typically the cause, although trauma can cause this as well
- Conservative care with splint, NSAID, cox2, injections, surgery
Radial Tunnel
Posterior Interosseous Nerve
Neck and Upper Extremity Pain

- Multiple causes, and many times its several sources of pain including discogenic, bone, tendon, myofascial, somatic dysfunction, etc.
- Put your hands on the patient!!
- Use EMG and radiographic studies to help confirm your diagnosis
- Try conservative care unless severe acute neurologic changes
Thank You

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