66 - Neck Pain

Most common etiology: Degenerative changes

10% of population at any given time has neck pain

Majority of injuries/degeneration occurs C4-C7

Symptoms Suggesting Major Pathology:

• Hx of recent fall/major trauma (Need immobilization and ER assessment)

• Wt loss/Fevers/chills/sweats/hx of CA/Immunsuppression/IVDU/Chronic steroid use (Tumour/Infection)

• Clumsiness, gait problems, bowel/bladder dysfx, babinksi sign (Cervical Myelopathy)

• H/A, shoulder/hip gurdle pain/visual symptoms (GCA)

• Shock like parasthesias (Lhertmitte’s phenom.) with neck flexion (MS, midline disk herniation)

• Anterior neck pain (Usually  non-spinal etiology)

Axial Neck Pain Disorders

Cervical Strain

 Injury to paraspinal muscles/ligaments with assoc spasm of neck muscles

• Acute neck and trapezius pain

• No neurologic dysfx

• Pain, stiffness, tightness x 4-6 wks; \*\*If lasting > 6 wks consider new dx and imaging\*\*

• Causes: Physical stresses, poor posture, poor sleeping habits, etc

Cervical Spondylosis

• Degenerative changes of cervical spine (soft tissue, disc, bone)

• X-rays:↓ disc height, osteophytes, Δ facet joints BUT correlation w presence/severity of pain poor

Cervical Discogenic pain

• Distortion of intervertebral disc that results in mechanical neck pain

• Unable to distribute pressures b/w disc/vertebral endplated/facet joints

• Axial neck pain +/- extremity pain

• Pain with neck held in one position for a long time (driving, working at computer, reading)

• Assoc muscle tightness, spasm

• O/E: ↓ROM, no neuro signs

Cervical Facet syndrome

• Most common cause whiplash-related neck pain

• Pain is midline or slightly off to one side.

• Referred pain to shoulders, scapula, occiput, upper arm

• Axial pain > extremity pain

• Intra-articular inj with lidocaine (relief = diagnostic)→ No Dx w PEx /Imaging

Whiplash – Abrupt flexion/extension injury

• Sever pain, muscle spasm, ↓ ROM, occipital headache

• Multiple injuries (soft tissue, spinal nerve, disc, ligaments, facet joints, bone

• Can become chronic (months, years)

Cervical Myofascial Pain

•Less generalized variant of fibromyalgia

•Regional pain assoc with trigger points, tight bands, pressure sensitivity

• Assoc with depression, insomnia

DISH (Diffuse Skeletal Hyperostosis)

• Inappropriate calcification @ insertion of ligament/tendon

• Dx on X-rays – specific changes

• Stiffness, loss of mobility

Tx Axial Neck Pain:

•Acute (<6 wks): Acetaminophen, NSAIDS, mild opioids (eg.tramadol), muscle relaxants (cyclobenzaprine 5mg TID, benzos); Home exercises: Gentle stretching exercises incl shoulder rolls and neck stretches (heat neck prior); Persistent (>6wks): Physical Tx, TCA’s (amitryptyline/nortryptyline 10-30 mg QHS),  duloxetine/venlafaxine esp w depression/anxiety/fibromyalgia

Extremity Pain / Neurologic Deficit Disorders

Cervical Spondylotic Myelopathy – Narrowing of the spinal canal → SC injury/dysfunction

• Sx:  Weakness, stiffness in L/E,  poor coordination / gait imbalance, bowel/bladder dysfx (rare), sexual dysfx.

• Signs: atrophy of hands, hyperreflexia, Lhermitte’s sign, sensory  loss

• DDx: MS, tumour, epidural abscess, ALS, syringomyelia

\*\*Needs surgical decompression\*\*\*

Cervical Radiculopathy – Dysfunction of spinal nerve root

• Pain, weakness, sensory changes, reflex changes along particular nerve root

• DDx: Degenerative/foraminal stenosis/herniated disc >> Shingles, DM radiculopathy

• Tx: analgesics, ?prednisone short course?

Non Spinal Causes

• Thoracic Outlet Syndrome – Triad:1)Numbness, 2)weakness, 3)sensation of swelling in upper limb

• Shingles – unilateral pain followed by typical rash

• Diabetic Neuropathy

• Vascular: vertebral artery/carotid artery dissection

• CVS: angina, MI

• INfxn: pharyngeal abscess, meningitis, HZV, Lyme D.

• Rheum: RA, PMR, fibromyalgia, spondyloarthritis

• Neuro: cervical dystonia, tension H/A

Physical Exam

Inspection

ROM

Palpate paraspinal & trapezius

Neuro exam: motor, sensory, reflexes, gait

UMN signs? - ↑ Reflexes, ↑ tone/spasticity, ↑babinski

Special Tests

Spurling’s (Neck Compression Test) – For ? radicular pain

• Head in neutral position → press down on top of head

• Head rotated to affected side and hyper extended → neck compression

• Reproduction of sx beyond shoulder is +ve test

• C/I in RA, cervical malformations, metastatic

Upper Limb Tension Test – For ? radicular pain

•Head turned contralaterally, ipsilateral arm abducted, external rot, wrist ext

•Reproduction of arm sx is +ve test, used as tx?

Manual Neck Distraction Test

       Hoffman Sign – indicates myelopathy

       Shoulder Abduction relief test – indicates herniation/nerve root imping, and therapeutic

Imaging

X-ray (odontoid, lateral, PA, both obliques)

• Hx of neck trauma

• New symptoms in patients >50y

CT/MRI

• Neurologic impairment

• Constitutional  sx (fevers, chills, wght loss)

• Dramatic bony tenderness with impaired mobility

• Persistent symptoms after 6 weeks of conservative care

EMG

• Pain, dysesthesias more prominent in extremities

• not very useful for CSM, may help differentiate radiculopathy from peripheral nerve entrapment

Trauma

Immobilization, neurological assessment, spinal palpation, radiographic studies

Clearing C-spine:

Clinical

• No C-spine tenderness

• No evidence of intoxication

• Alert and oriented (GCS=15)

• No focal neurological deficit

• No painful distracting injury

Lateral

Alignment

Anterior longitudinal line

Posterior longitudinal line

Spinolaminal line

Spinous processes

Ligamentous injury / instability

Bone (evaluate each vertebrae - ?Fracture, inc/dec density)

• Cortex – no discontinuity, angulation, step-off, bowing

• Dens – Difficult to see on lateral view. Atlanto-occipital dislocation

Cartilage / connective tissue

• Joint spaces

Soft Tissue

• Predental space should be <3 mm in adult, <5 mm in children

• Pre-vertebral space should be no more than 1/3 the diameter of the vertebral body