

## Evaluation of Cervical Spine Lesions

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### ❖ Spectrum of Disorders ❖

- Cervical degenerative discogenic / arthritic (Quasi radiculitis)
- Cervical radiculopathy
- Cervical myeloradiculopathy
- Cervical myelopathy

Appropriate neurological assessment is critical to define where patients fall in this spectrum.

### ❖ Pathogenesis ❖

- Disc degeneration is a cascading process because of multiple trauma, biochemical destabilisation and abnormal stresses. Changes in disc height and mobility produce pain at the level of the annulus.
- Sinuvertebral nerve emerging just distal to the dorsal ganglion arborizes over 2 levels on the posterior longitudinal ligament.
- Disc degeneration causes instability result in irregular vertebral movement.
- Instability produces posterior joint strain.
- Loss of disc height causes bony apposition with resultant reactive hyperostosis and osteophytes.
- Osteophytes along posterior portion of vertebrae at uncovertebral joint and facets.
- Osteophytes compress the nerve roots /spinal cord.

### **Cervical Degenerative Discogenic / Arthritic (Quasi radiculitis)**

- Axial neck pain and stiffness.
- Radiation into suboccipital region, shoulders, interscapular region, arms, or the chest.

- Headache similar to tension headaches.
- Occasionally deep retro-orbital pain.

### **Cervical radiculopathy**

- Arm pain exceeds neck pain
- Discomfort and numbness in a root distribution often the only symptom.
- Pain related to neck position and worsened by movement.
- Pain relieved by elevating the arm.

### **Cervical myelopathy**

- Classic presentation is numbness and clumsiness of the hands with a stiff spastic gait.
- Pain minimal and axial
- Presentation chronic, acute on chronic, acute.
- Stiffness, heaviness and weakness of their legs with cramping, muscle spasms, and easy fatigability.
- Patient experience difficulty in walking and often lose their balance.
- Leg symptoms may precede arm manifestations.
- Greater difficulty walking at night because of reduced proprioceptive input.

### ❖ Signs ❖

- Neck compression test
- Spurling's sign - hyperextension and contralateral rotation of the neck.
- Valsalva's test.
- Axial traction.
- Lhermitte's sign.
- Babinski's and Hoffman's signs.

### ❖ Investigations ❖

- Plain X-ray AP lateral in flexion and extension.
- Haemogram, ESR, CRP, serum calcium, phosphorous, alkaline phosphatase.
- Discography.
- MRI
- CT Myelo.
- Electrodiagnostic studies.

### ❖ Non operative treatment ❖

- Rest – shorter periods such as 2 days as good as longer periods over 7 days. Prolonged inactivity detrimental.
- Soft collar. Actual rigidity of this device is minimal but prevents excessive muscle excursion through possibly proprioceptive mechanism. Also localised heat generated by thermal contact.
- Hot packs cryotherapy, ultrasound, traction and massage helps more by bringing the patient to the facility rather than any statistically significant difference.
- Isometrics – include latissimus dorsi, rhomboid, shoulder abductor and trapezius muscles in addition to cervical muscles.
- Aerobic conditioning.
- Flexibility exercises.
- Progressive resistive exercises.
- Medications – NSAIDs, narcotics, muscle relaxants, and antidepressant drugs.

### ❖ Minimally Invasive Methods of Treatment ❖

- Discography, intradiscal infiltration of steroids.
- Reducing disc bulk using Laser.
- Endoscopy assisted discectomies.

### ❖ Surgical Treatment ❖

- Cervical laminectomy / laminoplasty.
- Cervicoforaminotomy.

- Anterior cervical discectomy and fusion.
- Corpectomy and fusion.

### ❖ MRI Scans ❖

MRI revealed significant cord compression mainly at C3, 4 & also extending to a certain extent behind C4.

C4 vertebrectomy was done & a strut iliac crest graft was placed between C3 & C5. Because of cost constraints the patient was turned round & lateral mass plating was done from behind.

### ❖ Other Causes ❖

- Congenital
- Infective / inflammatory
- Traumatic
- Neoplastic

