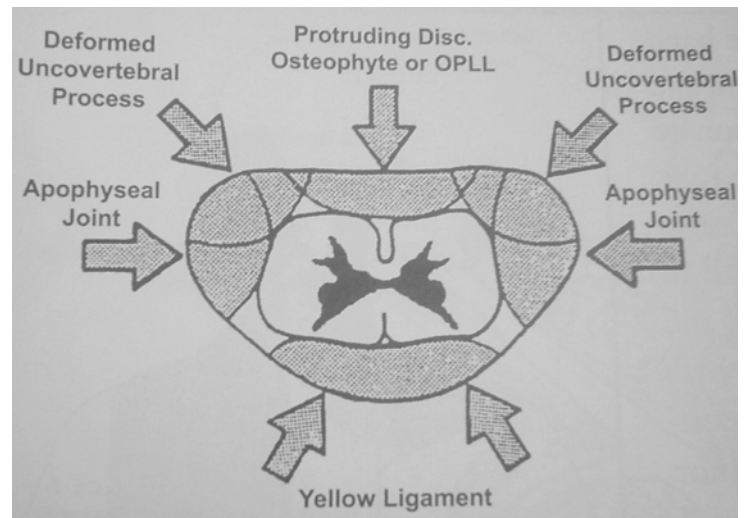


## CERVICAL SPONDYLOSIS

### Pathogenesis

The canal diameter is reduced by

1. Osteophytes, thickened ligamentum flavum, protruded disc
2. Hyperextension of the spine reduces the canal diameter by shingling effect of lamina and buckling of Ligamentum flavum
3. Retrolisthesis with extension
4. Hypermobility in the level above degenerated disc can cause myelopathy
5. Vascular compromise in spondylosis may cause myelopathy

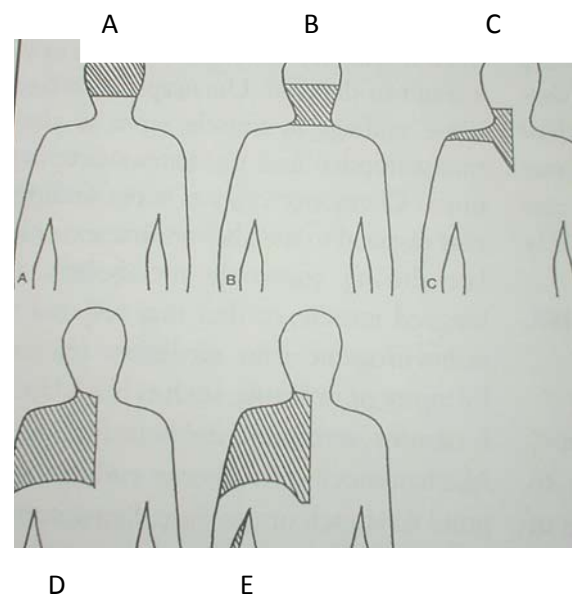


Disc is innervated by sinu-vertebral nerve formed from ventral nerve root and sympathetic plexus. This nerve turns back at intervertebral foramen and supplies: annulus fibrosus, posterior longitudinal ligament, and periosteum of the vertebra

### Clinical

1. Axial Pain patterns proved during discography at each level

A	Level between	C2-3
B	"	C3-4
C	"	C4-5
D	"	C5-6
E	"	C6-7



Look for trigger points. Pain is more on extending the neck.

## 2. Red flags: Night pain

Persistent pain > 3months

Any associated primary tumour

Weight loss and sweat

## 3. Referred or radicular pain

C6 to the thumb,

C7 to the middle finger

C8 to the little finger

C6 nerve root exist between C5-C6 vertebra. At cervical spine, both disc herneation and stenosis affect the exit root [In the lumbar region, transit root is involved in disc herniation]

If more than one nerve root involvement: rule out myelopathy

Sometimes, the pain can be referred to heart lungs and TMJ joint from Cervical spondylosis

4. Spurling's manoeuvre: Extension and lateral rotation to the side of pain [refer clinical examination]

## **Differential diagnosis for radiculopathy**

Peripheral entrapment syndrome

Rotator cuff syndrome

Brachial plexitis and herpes

Spinal tumours

Cardiac ischemia

## **Investigations**

X rays AP, Lateral, Flexion-extension lateral

MRI is gold standard

## **Myelopathy**

### **Types**

1. Transverse lesion syndrome: Corticospinal tract, Spinothalamic tract, Post Cord syndrome
2. Motor system syndrome: Cortico-spinal tract and Anterior horn cell
3. Central cord syndrome: Upper extremity involvement is more than lower extremity
4. Brown Sequard syndrome
5. Brachialgia and cord syndrome.

### **Clinical**

Neck pain is seen in 50%

Clumsiness of hand and lower limbs

Worsening hand writing

Difficulty in balance

Gait abnormality

Able to walk only with assistance

Patient will have upper motor lesion findings in the lower limbs

Lhermitte sign is positive in 25%

Radicular symptoms is seen in 35%

Sphincter disturbance in 40%

Myelopathy hand      Diffuse numbness of the hand

Marked wasting

Lhermitte sign: shock like sensation in the torso and limbs resulting from quick flexion or extension of the neck

Finger escape sign: Forearm in pronation, palm facing down. When the patient is asked to fully extend the digits, the ulnar finger drift to flexion and abduction

Grip and release test: Decrease ability to rapidly open and close the fist

## **Atypical cervical spondylosis**

1. Cervical angina: Mimics coronary disease; Chest or breast pain
2. Proliferative osteophytes causing dysphagia
3. Vertebral artery syndrome: Wallenberg syndrome with thrombosis of posterior inferior cerebellar artery: Nucleus in the brain stem, cerebellar ataxia, Horner's syndrome
4. Sympathetic chain involvement: Dizziness, blurring of vision, tinnitus and retro-ocular or Jaw pain

## **Differential diagnosis**

Cervical Myelopathy, Peripheral neuropathy, MND, Multiple sclerosis, CVA, Syringomyelia

## **Treatment**

1. Nonoperative: NSAID, Moist heat, Physiotherapy
2. Surgical

Anterior decompression

Anterior corpectomy

Posterior decompression

Posterior Laminotomy

