CERVICAL SPONDYLOSIS & CERVICAL DISC DISEASE

Presented By : Dr Anil Garg
Cervical spondylosis

- Cervical osteophytosis
- Most common progressive disease in the aging cervical spine
- Seen in 95% of the people by 65 years
Pathophysiology

• Dessication of the disc material and loss of disc height
• Greater stress on the articular cartilage, vertebral end plates and facet joints
• Loss of normal cervical lordosis and Formation of osteophytes
• Narrowing of neural foramina and spinal canal
• Secondary vascular and compressive phenomenon
Mechanical factors

Static Factors
- Congenital spinal canal stenosis
- Disc herniation
- Vertebral body osteophytes
- Hypertrophied ligamentum flavum
- Ossified posterior longitudinal ligament

Dynamic Factors
- Abnormal stresses over spinal column and cord during normal and abnormal movements and loads
Clinical Presentation

- Neck pain
- Cervical Radiculopathy
- Cervical Myelopathy
Signs and Symptoms

Radiculopathy

- Radicular pain
- Weakness limited to particular myotome
- Sensory loss
- Absent or decreased DTR
Signs and Symptoms

Myelopathy

• Weakness and stiffness of legs, gait abnormality
• Numb or clumsy hand
• Rarely urinary incontinence
• Central cord syndrome
Differential Diagnosis

- Amyotrophic lateral Sclerosis
- Multiple Sclerosis
- Subacute combined degeneration of cord
- Tumours
- Syringomyelia
- Tabes dorsalis
Radiographic Studies

- X-Ray
- CT and CT myelography
- MRI
- Electrophysiologic Studies
Medical Management

- NSAID’s
- Opioid Analgesics
- Muscle Relaxants
- Antidepressants
- Anticonvulsants
- Cervical epidural steroid injection
Nonpharmacological Nonoperative therapy

• Cervical collar
• Cervical Traction
• Physical Therapy
  – Active isometric exercises
  – Thermotherpy
  – Chiropractic manipulation
  – Ultrasound
  – TENS
Approach to a patient with neck pain

- NSAID’s
- Isometric Neck Exercises
- Physical therapy
- Surgery - Fusion
Approach to a patient with cervical radiculopathy

- Initially conservative management
- Surgery - ventral or dorsal
- Ventral - ACDF
- Dorsal - Laminoforminotomy
Approach to a patient with CSM

- Nonsurgical Treatment-
  - patient is medically frail
  - Mild Static disease
- Surgical Treatment
  - Progressive Disease
Surgical options

- Dorsal decompression
  - Laminectomy
  - Laminoplasty
- Ventral decompression
  - ACDF
  - Corpectomy and Fixation
Cervical spondylosis: Ventral or Dorsal surgery

- Location of the lesion
- Specific disease pathology
- Number of vertebral levels
- Age at surgery
- Curvature of the spine
Complication of Laminectomy

- Post-Laminectomy Kyphosis
- Instability
- Postlaminectomy membrane
Ventral procedures for Cervical Spondylosis

- Indications
  
  Anterior compression by degenerated disc, OPLL, degenerated vertebral body
  ≤3 level disease
Procedures

- ACDF with or without fusion
- ACDF with cervical plating
- Corpectomy with fusion
ACDF

Indications

- Degeneration limited to disc
- Cervical spondylosis with radiculopathy

Techniques

- Smith-Robinson
- Cloward
- Bloom and Raney
Bryan Cervical Disc Prosthesis

• Polyurethane wrapped low friction, water resistant elastic nucleus located between and articulating with two titanium alloy surfaces.
Cervical corpectomy

Aims:

– Ventral decompression
– Interbody fusion
– Plate osteosynthesis
ACDF with Vs without Plating

• Several RCT’s demonstrated no improved clinical outcome in patient with ACDF with or without plating in patient with single level disease

• In multilevel procedures and unstable spine, there is increased stability and decreased graft migration following instrumentation
Autograft vs Allograft

- Clinical efficacy
- Graft harvest morbidity
- Cost and availability
Thank you