

Pressure nerve roots caudal to the level of spinal cord termination → combination of low back pain, unilateral or usually bilateral sciatica, saddle sensory disturbances, bladder and bowel dysfunction, and variable lower extremity motor and sensory loss.

Causes

- Rare. It occurs mainly in adults at any age.
- Herniation of a lumbar disc, usually L4-5 or L5-S1
- Tumours: metastases, lymphomas, spinal tumours
- Trauma
- Spondylolisthesis
- Infection, including epidural abscess
- Spinal stenosis
- Congenital, e.g. congenital spinal stenosis, kyphoscoliosis and spina bifida
- Late-stage ankylosing spondylitis
- Post-operative haematoma
- Following spinal manipulation
- Inferior vena cava thrombosis
- Sarcoidosis

Presentation

Usually acute onset with progression over hours or days.

- Low back pain → legs and unilateral or bilateral lower limb motor &/or sensory loss.
 - Usually asymmetrical weakness
 - Loss of reflexes dependent on the affected nerve root
- Bowel and/or bladder dysfunction with saddle and perineal anaesthesia.
- Rectal examination may reveal loss of anal tone and sensation.
- Sexual dysfunction.

Investigations

- MRI (confirm Dx & localise lesion). Myelography and CT are also sometimes used.
- Urodynamic studies: may be required to monitor bladder function following surgery.

Differential diagnosis

- Conus medullaris syndrome (just proximal to cauda equina at T12-L1; less nerve root pain & mainly urinary retention & constipation)

Management

Urgent neurosurgical consultation.

Urgent surgical spinal decompression is indicated for most patients.

- Immobilise spine if cauda equina syndrome is due to trauma.
- Other treatment options may be useful depending on the underlying cause:
 - NSAIDs, steroids, if inflammatory causes, e.g. ankylosing spondylitis.
 - Infection causes should be treated with IV antibiotics.
 - Patients with spinal neoplasms evaluated for chemotherapy and radiation therapy.
- Postoperative care includes addressing lifestyle issues, e.g. obesity, and also physiotherapy and occupational therapy, depending on residual lower limb dysfunction.