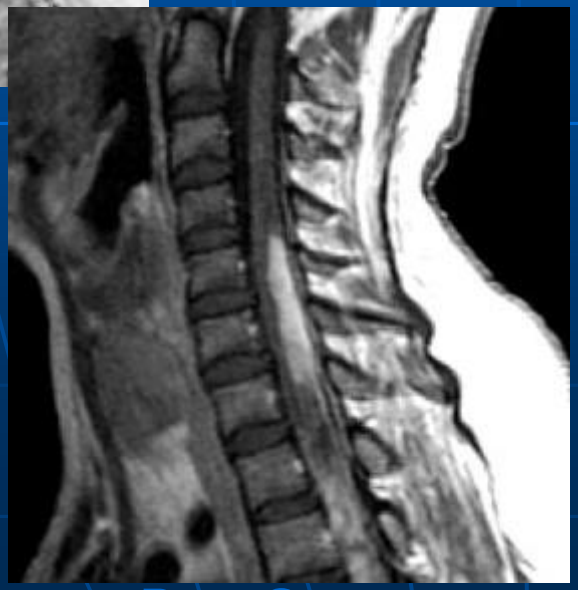
Acute transverse myelitis



Post Contrast

- Best diagnostic clue:
  - Central cord lesion more than two vertebral segments in length with eccentric enhancement
  - Thoracic more common
  - 10% in cervical cord
  - Central cord location on axial imaging
  - Variable post-gadolinium enhancement

Idiopathic acute transverse myelitis

- Inflammatory disorder involving both halves of spinal cord resulting in bilateral motor, sensory, and autonomic dysfunction.
- Solitary or multifocal lesions
- Up to 40-50% of cases not demonstrated by MRI
- Age
  - All ages can be affected
  - Transverse myelitis with two peaks
  - 10-19 and 30-39 years old
- Typically monophasic

Idiopathic acute transverse myelitis

- Etiology
  - Possible association with previous viral infection or vaccination in some cases
  - Autoimmune phenomenon with formation of antigen-antibody complexes
  - Small vessel vasculopathy resulting in cord ischemia
  - Associated demyelinating process

DDX:

- **Multiple sclerosis**
  - Peripheral in location
  - Less than two vertebral segments in length
  - Less than half cross-sectional area of cord
  - 90% with associated intracranial lesions
  - Relapsing and remitting clinical course
- **Spinal cord neoplasm**
  - Cord expansion invariably present
  - Diffuse or nodular contrast-enhancement
  - Extensive peri-tumoral edema
  - Cystic ± hemorrhage components
  - Slower clinical progression

DDX: (Cont)

- **Cord infarct**
  - Ventral cord location
  - Motor signs greater than sensory
  - Immediate onset
    - Minutes, rather than hours, days
  - Less mass effect initially
- **Syringohydromyelia**
  - Central cystic lesion
  - Cerebral spinal fluid intensity on all pulse sequences
  - No post-gadolinium enhancement
  - Normal cord contour