Transverse Myelopathy

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Etiology

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**SUBJECT'S NOTATION**

- Most important differentiation

- Pathology mechanisms.

6.

3.

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**TRANSVERSE MYELOPATHY** - syndrome of spinal cord segment damage across greater part of sectional area.

**ETIOLOGY**

1. Trauma - most frequent cause of complete lesions.

2. Demyelinating & inflammatory processes (TRANSVERSE MYELITIS) - most commonly incomplete lesions (although there is evidence of involvement of entire cross-section of cord):

   1) MS, neuromyelitis optica

   2) infection – enteroviruses (esp. polioviruses*, enterovirus 70-71), herpesviruses (HSV-2*, VZV*, EBV, CMV), mumps, measles, mycoplasma, acute meningovascular syphilis, HIV, HTLV-I.

   **prototypical acute infectious myelitis**

   **recurrent saccular myelitis in association with outbreaks of genital herpes**

   **most common cause of acute viral myelitis**

   3) collagenoses - SLE (†), Sjögren's syndrome, Behçet's disease.

   4) sarcoidosis (subacute transverse myelopathy with severe cord swelling).

3. Spinal cord ischemia - complete or incomplete lesion (e.g. anterior 2/3 anterior spinal artery syndrome).

4. Hemorrhage into spinal cord.

5. Intraparenchymal abscess.

6. IDIOPATHIC acute transverse myelitis

**IDIOPATHIC ACUTE TRANSVERSE MYELITIS**

- frequently after nonspecific viral infection – direct viral invasion into cord or autoimmune mechanisms.

- N.B. sensory & motor findings tend to be symmetric (vs. MS – asymmetric)?

   • may progress to necrosis and cavitation.

**CLINICAL FEATURES**

- List all motor & sensory functions below level of transverse myelopathy.

   - diffuse / multifocal abnormal bright signal on T2-MRI

   - contrast enhancement (BBB disruption) in acute cases

   - brain MRI for all cases - to assess for of MS

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**DIAGNOSIS**

CT / MRI - mild-fastform swelling in affected region.

- diffuse / multifocal abnormal bright signal on T2-MRI

- contrast enhancement (BBB disruption) in acute cases

- brain MRI for all cases - to assess for of MS

CSF

a) normal

b) pleocytosis (up to several hundred mononuclears, in severe acute cases, PMNs may be present), protein normal or mildly elevated.

Most important differentiation (must be done rapidly with MRI!) - compressive myelopathy:

1) spinal or epidural abscess / hematoma

2) tumor, especially metastatic (may present acutely even though tumor has been present for weeks or longer)

3) herniated intervertebral disk (central herniation may cause acute compression without local pain).

**TREATMENT**

Corticosteroids (e.g. IV METHYLPRERDNI SOLONE 500 mg q 12 hours for 3 days → tapering with PREDNISOLONE) - reduce edema and lead to earlier function restitution.

- indications – idiopathic (postinfectious) transverse myelopathy, MS, cord compression.

Spin7 (1)
SURFER’S MYELOPATHY

- rare (64 cases reported), acute, atraumatic thoracic/conus medullaris myelopathy that occurs in young, healthy, novice surfers who have no pre-existing spinal disease.
  - altered venous return that occurs from lying prone for prolonged periods of time on a surfboard can contribute to vascular insufficiency.
  - occlusion by embolus or vasospasm induced by prolonged hypertension; there have been no reported cases of a similar acute myelopathy in novice or elite butterfly stroke swimmers, who repetitively and violently hyperextend their flexible trunks for brief periods of time, often while performing a Valsalva maneuver; therefore, it is more likely that prolonged hypertension plays the putative role.
- clinically start with back pain and rapidly progress to complete/incomplete myelopathy.
- diagnosis: T2 signal in the central cord within 24-72 hours; gadolinium enhancement and DWI are not helpful; at follow up – cord atrophy at involved levels.
- treatment - patients receiving steroids improved 55% of the time; optional – lumbar drain.

- prognosis:
  - incomplete cases improve within 24 hours of onset
  - no improvement has been reported for ASIA A cases (>50% of reported cases)
  - overall neurological recovery rate - 42%

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