

Transverse Myelopathy

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ETIOLOGY	1
IDIOPATHIC ACUTE TRANSVERSE MYELITIS	1
ETIOLOGY	1
CLINICAL FEATURES	1
DIAGNOSIS	1
TREATMENT	1

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

ETIOLOGY

- Trauma** - most frequent cause of **complete** lesions.
- Demyelinating & inflammatory processes (TRANSVERSE MYELITIS)** - most commonly **incomplete** lesions (although there is evidence of involvement of entire cross-section of cord):
 - MS**, neuromyelitis optica
 - infection** – enteroviruses (esp. poliomyelitis*, enterovirus 70-71), herpesviruses (HSV-2**, VZV***, EBV, CMV), mumps, measles, mycoplasma, acute meningovascular syphilis, HIV, HTLV-I.
 - ***prototypical** acute infectious myelitis
 - **recurrent sacral myelitis in association with outbreaks of genital herpes
 - *****most common** cause of acute viral myelitis
 - collagenoses** - SLE (!), Sjögren's syndrome, Behçet's disease.
 - sarcoidosis (subacute transverse myelopathy with severe cord swelling).
- Spinal cord **ischemia** - **complete** or **incomplete** lesion (e.g. anterior 2/3 anterior spinal artery syndrome).
- Hemorrhage** into spinal cord.
- Intraparenchymal **abscess**.
- IDIOPATHIC acute transverse myelitis**

IDIOPATHIC ACUTE TRANSVERSE MYELITIS

ETIOLOGY

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

Pathology - **inflammatory demyelination** which involves several segments (usually thoracic).

- may progress to necrosis and cavitation.

CLINICAL FEATURES

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

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

- onset** – (sub)acute back pain, ascending leg weakness, paresthesias below level of lesion, sphincter dysfunction.
 - pathological process may be acute - initially produces **SPINAL SHOCK**, but hyperreflexia soon supervenes; persistent areflexic paralysis indicates necrosis over multiple spinal segments (differentiate from Guillain-Barré syndrome).
- common **additional features**:
 - band of **disagreeable dysesthesia** above uppermost border of sensory loss.
 - **radicular pain** at lesion level.
 - **tender** (on percussion) **spinous processes** - in epidural abscess, vertebral metastasis.
- spontaneous complete recovery** (over weeks ÷ months) occurs in 60% cases.

DIAGNOSIS

CT / MRI - mild **fusiform 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.

T2-MRI: mild expansion of upper spinal cord and signal change (white) within it:



CSF:

- normal
- 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**:

- spinal or epidural **abscess / hematoma**
- tumor**, especially metastatic (may present acutely even though tumor has been present for weeks or longer)
- herniated intervertebral disk** (central herniation may cause acute compression without local pain).

TREATMENT

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

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

BIBLIOGRAPHY for ch. "Spinal Disorders" → follow this [LINK](#) >>

Viktor's NotesSM for the Neurosurgery Resident
Please visit website at www.NeurosurgeryResident.net