A case report of longitudinally extensive transverse myelitis in a child

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Introduction:

- Longitudinally extensive transverse myelitis (LETM) is a rare form of myelitis in children.
- It is defined as a spinal cord lesion that extends over three or more vertebrae, as seen on MRI of the spine.

Case report :

- A 6-year-old girl
- Previously healthy
- She presented with sudden onset back pain and upper limb weakness following paralysis and numbness of his 4 extremities and bladder dysfunction.
- There was no fever or recent relevant traumatic injury

➤ **Neurological examination:**

- Hypotonia of all 4 limbs,
- Deep tendon reflexes were absents.
- Loss of sensations on all spinal level

➤ **Ophthalmological examination :**

Bilateral non-granulomatous anterior uveitis.

➤ **Magnetic resonance imaging of the brain and spine:**

Figure1: Spine MRI T2 sequence: extended spinal cord signal reaching the brainstem in favor of extensive longitudinal myelitis

Figure 1

- **Cerebrospinal fluid:** was not performed
- **Viral serology (CMV, West Nile, VZV,HSV)** were negative
- **Immunity screening** was negative:
neuromyelitis optica IgG (NMO-IgG), Antiphospholipid Antibody, Antinuclear antibody were all negative.

➤ **Treatment:**

- Methylprednisolone bolus: 30 mg/ kg/day for 5 days / Veinoglobulin.
- A phasmapheresis was indicated

➤ **Evolution:**

- Clinical aggravation: tetraplegia, coma and respiratory failure
- The patient died after plasmapheresis.

Discussion:

- Acute longitudinally extensive transverse myelitis (LETM), defined by an extensive T2 lesion affecting three vertebral segments in the sagittal plane.
- It is the most common form of idiopathic transverse myelitis in children.
- heterogenic etiology:
 - 1) Infectious: herpes; enterovirus; lyme; chlamydia;...
 - 2) Autoimmun (NMO)
 - 3) Paraneoplastic
- Neuromyelitis optica (NMO) is an autoimmune condition affecting optic nerves and spinal cord. Aquaporin-4 antibody damages the optic nerves and spinal cord.
- Acute transverse myelitis is manifested by acute paraplegia or tetraplegia associated with sensory and autonomous deficit
- A rapid progression of symptoms, high level of deficit, spinal shock are the bad prognostic factors.
- Methylprednisolone is the mainstay in the treatment in ITM.
- Intravenous immunoglobulin is typically dosed at 2 g/kg divided over 2 to 5 days.
- Cyclophosphamide 500 to 750 mg/m2 once may be another alternative.

Conclusion :

The diagnosis of LETM is based on clinical features and MRI data.

Despite performed profound tests the etiology of LETM in our patient remained unknown.