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Case Report

An Unusual Case of Quadriparesis: A case Report

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Abstract:

Acute Transverse Myelitis is a focal inflammatory disorder of the spinal cord characterized by acute or subacute development of motor weakness, sensory impairment and autonomic dysfunction. It can be of infectious, non-infectious inflammatory or idiopathic aetiology. Acute Transverse Myelitis presents with Upper Motor Neuron pattern of weakness below the level of the spinal cord involved along with sensory involvement in the form of pain and paraesthesia at the level of the spinal cord involvement. Patients usually respond to immunosuppressive therapy with corticosteroids. Here we present a case of acute transverse myelitis in a state of spinal shock who presented with Lower Motor Neuron pattern of motor weakness which may lead to difficulty in diagnosis.

Supplementary information The online version of this article (https://doi.org/xx.xxx/xxx.xx) contains supplementary material,which is available to autho-rized users.

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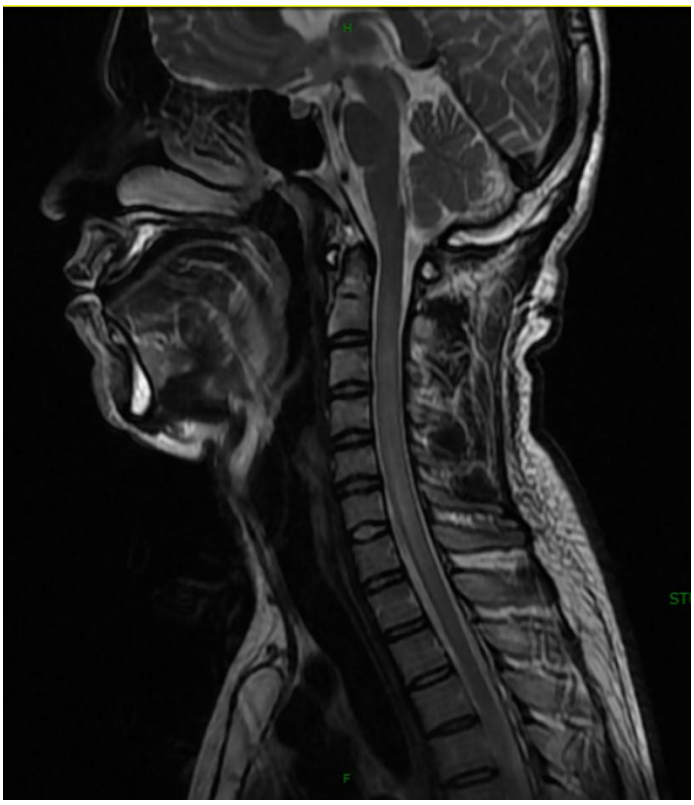
Case Report:

A 24-year-old male patient presented with chief complaints of bilteral upper and lower limb weakness & dribbling of urine for 1 day. Patient was apparently alright 1 day ago when he developed weakness in all four limbs which was acute in onset and progressive. Patient was unable to walk and could not lift heavy objects. It was associated with frequent involuntary leaking of urine and the patient was unable to initiate voiding. It was not associated pain and had no aggravating or relieving factors. Seven days ago, patient experienced 3-4 episodes of diarrhoea with fever for which he did not take any treatment. There was no history of back pain, radiating pain, trauma, headache, nausea, vomiting or waxing and waning of symptoms. On examination, patient was conscious, visibly distressed and anxious however, co-operative and oriented to time, place and person and was vitally stable. Examination of the spine was normal.

On neurological examination, motor power was found to be decreased in all 4 limbs (3/5 in upper limbs and 2/5 in lower limbs), tone was decreased and deep tendon reflexes were diminished in all 4 limbs. Plantar reflex was absent bilaterally. Sensory examination revealed impaired vibration, pain and temperature sensations in all 4 limbs. Cranial nerve examination was found to be normal.

Diagnosis:

Results of routine investigations were normal except leucocytosis on complete blood count. Chest Xray showed no abnormal findings. CSF studies revealed no albuminocytological dissociation (protein-67mg/dl, Glucose-106mg/dl, Total nucleated cells 36, all lymphocytes). Anti-NMO antibodies were negative. NCV studies were done which showed normal F wave latency. MRI of the spine showed diffuse long segment involvement of the cervical spine extending from C2 to C7 with a likely inflammatory aetiology.



Management and Prognosis:

Foley's catheter was inserted. On day 2 of admission, patient developed respiratory distress for which he was put on NRBM on which, he maintained a SpO2 of 99% on non-rebreathing mask. The power in the lower limb had progressed to grade 0.

Considering a diagnosis of acute transverse myelitis in a state of spinal shock, the patient was started on IV Methylprednisolone 1g once daily and his SpO2 and chest expansion were monitored. Considering a less than desirable response after 3 days of methylprednisolone treatment, a cycle of Apheresis was done after which the patient's power in upper limb had improved to 4/5 and tone in the upper limb had normalized. Breathlessness had improved 2 days later. Power in lower limbs was 1/5 and hypotonia was present. Patient continued to improve over the next 7 days. Urinary symptoms had improved and foley's catheter was removed. On discharge, power in upper limbs was 5/5 and that in lower limbs was 4/5. Patient came for follow up after 2 weeks and continues to do well.

Discussion:

Transverse myelitis (TM) is a rare, focal inflammatory disorder of the spinal cord often presenting with rapid onset weakness, sensory deficits, and bowel/bladder dysfunction. It usually causes bilateral deficits however, there may be partial or asymmetrical involvement[1]. At peak deficit, 50% of patients are complete paraplegic with virtually all of the patients having a degree of bladder/bowel dysfunction. Approximately 33% of patients recover with little to no lasting deficits, 33% have a moderate degree of permanent disability, and 33% are permanently disabled[1]. The aetiology of transverse myelitis can be idiopathic, post-infectious, systemic inflammation, or multifocal CNS disease; most common cause being idiopathic. The incidence of transverse myelitis is approximately 1 to 8 new cases per 1 million people per year[1]. A set of diagnostic criteria have been proposed for the diagnosis of transverse myelitis but are generally reserved for research purposes[3]. A few important features that aid in diagnosis include: Sensory, motor or autonomic dysfunction localized to the spinal cord; T2 hyperintense signal changes on MRI; No evidence of a compressive lesion. The first line treatment for acute transverse myelitis is glucocorticoids (methylprednisolone) for 3-5 days. Plasma exchange therapy may be efficacious in cases which do not respond to corticosteroids[3,4]. Apheresis refers to techniques for large scale separation of selected components of blood, e.g., when plasma is separated, it is termed as plasmapheresis. This is achieved by mechanical centrifugation[3].

References:

1. Simone CG, Emmady PD. Transverse Myelitis. [Updated 2022 Jun 10]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK559302/
2. Krishnan C, Kaplin AI, Pardo CA, Kerr DA, Keswani SC. Demyelinating disorders: update on transverse myelitis. Curr Neurol Neurosci Rep. 2006 May;6(3):236-43. [PubMed]
3. Beh SC, Greenberg BM, Frohman T, Frohman EM. Transverse myelitis. Neurol Clin. 2013 Feb;31(1):79-138. [PMC free article] [PubMed] [Reference list]
4. Berman M, Feldman S, Alter M, Zilber N, Kahana E. Acute transverse myelitis: incidence and etiologic considerations. Neurology. 1981 Aug;31(8):966-71. [PubMed] [Reference list]
5. Transverse Myelitis Consortium Working Group. Proposed diagnostic criteria and nosology of acute transverse myelitis. Neurology. 2002 Aug 27;59(4):499-505. [PubMed] [Reference list]
6. Weinshenker BG, O'Brien PC, Petterson TM, Noseworthy JH, Lucchinetti CF, Dodick DW, Pineda AA, Stevens LN, Rodriguez M. A randomized trial of plasma exchange in acute central nervous system inflammatory demyelinating disease. Ann Neurol. 1999 Dec;46(6):878-86. [PubMed] [Reference list]
7. ortese I, Chaudhry V, So YT, Cantor F, Cornblath DR, Rae-Grant A. Evidence-based guideline update: Plasmapheresis in neurologic disorders: report of the Therapeutics and Technology Assessment Subcommittee of the American Academy of Neurology. Neurology. 2011 Jan 18;76(3):294-300. [PMC free article] [PubMed] [Reference list]
8. Friedman, D.F., Kim, H.C. (2004). Apheresis. In: Warady, B.A., Schaefer, F.S., Fine, R.N., Alexander, S.R. (eds) Pediatric Dialysis. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-1031-3_38