



DENGUE VIRAL FEVER PRESENTED WITH ACUTE TRANSVERSE MYELITIS: CASE REPORT

General Medicine

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ABSTRACT

Dengue infection is the leading cause of morbidity and mortality in tropical and subtropical regions of the world. The common complications associated with dengue fever are usually haematological abnormalities, shock, and multi organ failure, however the neurological complications of dengue are uncommon. With latest research, it has been shown that this virus has the capacity to infect the CNS's supporting cells. Direct neuro-invasion or the phenomena of antibody-dependent enhancement, which results in plasma leakage and coagulopathy, also can cause neural damage during the acute stage of the infection, leading to neurological complications. We report an uncommon case of Acute Transverse Myelitis with dengue fever that had a favourable outcome.

KEYWORDS

Dengue fever, Transverse myelitis, Paraplegia

INTRODUCTION

One of the most prevalent illnesses in the tropics, particularly during the rainy season, is Dengue fever. Acute febrile illness with thrombocytopenia and bleeding tendency is the typical presentation.

But increasing cases are becoming aware of dengue fever's neurological manifestations. When dengue fever presents with Paraplegia, acute transverse myelitis should be suspected to avoid delay in treatment and undue investigations.

Case Report

A 19 year old Hindu unmarried male patient presented to medical ward P.D.U Civil Hospital Rajkot on 23 September 2022 with chief complain of high grade fever associated with chills and rigor for 3 days, difficulty in passing urine and stool for 3 days, and associated with headache and body ache for 1 day and. Patient was having complain of weakness of both legs which was sudden in onset as manifested by fall down while walking, it involved both lower limbs equally, the proximal muscles and distal muscles were involved at the same time for 2 days and it was associated with loss of bowel and bladder control. There was history of band like sensation around the abdomen at the level of umbilicus. He was initially taken to a private hospital for treatment and then referred to medical ward for further management. There was no history of trauma, neck pain, sensory symptoms in limbs, recent vaccination, diarrhoea, recent vigorous exercise or heavy carbohydrate meal. He was not on any prescription medications. He was having no history of any addiction.

Examination

Temperature- 100.8 °F
PR- 112 bpm
BP- 124/80 mmHg RS- BLAE+
CVS- S1 S2+ CNS-
Higher mental function: Intact Cranial Nerve: Intact

Motor System:

Bulk- Well Built, well Nourished, bilateral symmetrical
Tone- normal in bilateral upper limbs, Reduced symmetrically in bilateral lower limbs
Power- 5/5 in bilateral upper limbs; 0/5 in bilateral lower limbs
Pupil- Bilateral reactive to light Plantar- Bilateral ABSENT
Reflex- Bilateral Biceps; triceps; supinator: +2 Bilateral Knee, Ankle: 0

Sensory System:

Crude and fine Touch, Pain, Temperature, Hot-Cold difference & Proprioception: Intact across all dermatomes.
Band like Sensation present at level of T-10 present.

Investigation: ON ADMISSION

ECG: WNL

Hemoglobin	13.5	(13-17g/dl)
Wbc	9600	(4000-11000/ cmm)
Platelets	261000	(1.5-4.5lakh/
Creatinine:	1.2	(0.9-1.3 mg/dl)
Sodium:	141	(135-145 mmol/L)

Potassium: 3.9 (3.5-5.1 mmol/L)

Dengue IGM: 1) Equivocal; 2) Positive

A rapid card test for malaria was negative, the dengue serology was equivocal sent on Day 1 and turned out to be positive (anti- IgM) on Day 3. HIV, HBsAg and Anti HCV Ab was negative, RPR test was negative, RA factor was negative, ANA and ANCA profile was negative, CSF analysis was within normal limits, Anti MOG Ab was negative, Anti Aquaporin-4 antibody was negative. EMG-NCV study was done which did not reveal any peripheral neuropathy like GB Syndrome.

MRI Brain revealed No significant focal brain parenchyma lesion.

However, MRI Cervical Spine with whole spine screening, revealed Presence of large patchy areas of intrasubstance hyper intensity is noted involving more than 2/3rd area of cervical spinal cord with minimal expansion of the involved cord- suggest possibilities of underlying acute transverse myelitis/demyelination

Patient was started on Intravenous Methyl Prednisolone 1 gm and clinically, there was marked improvement in the power of the limbs (from 0/5 to 4+/5 in bilateral lower limbs) by the 3rd day of inj. Methyl Prednisolone. Patient was given Inj Methyl Prednisolone for total of 5 days and other supportive treatment were given, he was then shifted to oral Prednisolone, and was discharged on Day 6 with power 4+/5 in bilateral lower limb, with residual bladder symptoms.

DISCUSSION

Dengue hemorrhagic fever and Dengue fever aetiology is complex and poorly understood till date. Instances of central nervous system (CNS) involvement are often categorised as dengue with atypical signs since the basic hypotheses are incompatible with neurological involvement. [1]

Acute transverse myelitis associated with Dengue viral fever /is extremely rare. It can occur during the course of infection or post infection. Long segment involvement is the rule. [2]

The pathogenesis is thought to be immune-mediated in the post-infectious stage and as a result of direct virus invasion in the para-

infectious stage. Post-infectious immune-mediated myelitis usually arises within 1–2 weeks after the onset of initial symptoms, whereas para-infectious myelitis can take place within the first week of infection.[3]

Even if a temporal relationship with a recent dengue infection is established, Neuromyelitis optica spectrum disorder (NMOSD) or multiple sclerosis (MS) need to be excluded by appropriate diagnostic tests [4]

Physicians should be aware that dengue can present with neurological complications.

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