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A Case Report on Transverse Myelitis

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ABSTRACT: Scrub typhus is known to cause central nervous system involvement, which can show as meningitis or meningoencephalitis. However, relatively few reports of acute transverse myelitis (ATM), a spinal cord lesion, have been linked to scrub typhus. Patients with a spinal lesion and scrub typhus have neurologic symptoms such as dysuria and sensory and motor impairment. Here, we report on an uncommon instance of ATM linked to scrub typhus. The diagnosis of ATM linked with scrub typhus was made based on the patient's clinical features, cerebral fluid cytology, Orientia tsutsugamushi serum antibody titer, and several magnetic resonance imaging scans.

KEY WORDS: Neurological dysfunction, Syndrome, Transverse myelitis.

INTRODUCTION

Transverse myelitis is defined by inflammation in the spinal cord and has clinical symptoms in the form of neurological dysfunction in autonomic, sensory, and motor pathways, as a result of the channel passing the rostral border of inflammation. When no compressive lesion is present, transverse myelitis manifests as a localized inflammation along one or more spinal cord levels. The myelin that protects nerve cells can be damaged by this inflammation, which can lead to neurological dysfunction such as weakness, sensory abnormalities, and issues with the bowel and bladder [1]. With an annual frequency of one to eight new cases per million people, ATM may be a rare syndrome. MRI scans and lumbar punctures frequently revealed sensory complaints as well as signs of acute inflammation [2].

CASE REPORT

A 16-year male patient was admitted with the main complaint that his hand grip had deteriorated over the previous two days, a challenge while mixing meals. The patient appeared to be symptom-free two days prior, and the fever history was denied. They had no difficulties lifting their hands above their heads, and they denied having loose stools. There have never been any prior complaints of this nature. No prior history of medication use. No family history of symptoms resembling these. On Examination the patient and his vitals were found to be stable but both hand grips were found to be less than 10%. So, the physician suspected him of transverse myelitis and advised him to electro neuro myography finding, an MRI cervical spine with a screening of the whole spine,ECG, urea, and total bilirubin levels. Here electro neuro myography findings were normal upper and lower limb nerve conduction studies,MRI cervical spine with a screening of the whole spine was found to be long segment fusiform thickening of the cervical cord extending from C3 to the superior endplate of D1, which shows a long segment central hyperintense intramedullary signal involving both halves of the cord and no central canal dilatation, ECG shows sinus tachycardia, inferior infarction. The regular examination of plantar reflexes and power was found to be as follows in Tab:1,2,3. Onday 9 the hand grip was found to be 80% this shows that the patient's condition was improved with the treatment provided in Tab:4.

Table 1: Plantar reflexes

Plantar Reflexes	Day-1		Day-3		Day-5	
	Right	Left	Right	Left	Right	Left
Biceps	1	1	1	1	1	1
Triceps	1	1	1	1	1	1
Supinator	1	1	1	1	1	1
Knee	1	1	2	2	3	3
Ankle	0	0	0	0	3	3

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Table 2: On Day 2 power was found to be

Upper limb	**Right**	**Left**
Proximal	5/5	5/5
Distal	1/5	1/5
Lower limb		
Proximal	5/5	5/5
Distal	5/5	5/5

Table 3: On Day 3 power of limb was found to be

Upper limb	**Right**	**Left**
Deltoid	5/5	5/5
Biceps	5/5	5/5
Triceps	5/5	5/5
Brachioradialis	5/5	5/5
Wrist extension	5/5	5/5
Wrist flexion	5/5	5/5
Thumb extension	2/5	3/5
Thumb flexion	2/5	3/5
Finger extension	2/5	3/5
Finger flexion	2/5	3/5
Lower limb		
Proximal	5/5	5/5
Distal	5/5	5/5

Table 4: Treatment provided during therapy.

Drug Prescribed	**Generic Name**	**Dose**	**Frequency**	**Route of Administration**
Inj. Pantop	pantoprazole	40 mg	OD	IV
Inj. Ondansetron	ondansetron	40mg	BD	IV
Injoptineuron	Thiamine	1 Ampule in 1 pint DNS	OD	IV
Tab. MVT	Multivitamin		BD	IV
Inj.Zofer	Ondansetron	4mg	BD	IV
Inj. Methyl Prednisolone	Methyl Prednisolone	1g	OD	IV
T. Prednisolone	Prednisolone	40mg	OD	Oral

DISCUSSION

People between the ages of 10 to 19 and 30 to 39 are considered to have a greater incidence rate than other age groups [3].Symptoms include motor, sensory, and/or autonomic dysfunction. Rapidly, increasing paraparesis, which can affect the upper extremities at first with flaccidity and then spasticity, is one type of motor impairment. White matter structures in the spinal cord may have been harmed, which would explain this. At the level involved, symptoms like pain, dysesthesia, and paraesthesia are most frequently accompanied by sensory involvement. Urinary urgency, bladder/bowel incontinence, difficulty or inability to void, bowel constipation, or sexual dysfunction are examples of autonomic symptoms of TM. The initial indicator of myelitis may be urinary retention, which calls for additional research into myelopathy [4]. To assess for possibly treatable causes of myelopathy, serum vitamin B12 levels, thyroid function tests, syphilis, and HIV serologies should always be obtained. Analysing the cerebrospinal

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fluid (CSF) is crucial for assessing TM. All TM patients should have their CSF cell count, differential, protein, glucose, oligoclonal bands (OCBs), and IgG index evaluated.A neuro-ophthalmological evaluation is necessary to seek for ophthalmic signs that may offer helpful diagnostic hints, especially when radiologic and laboratory tests come back negative.Examining patients with TM may benefit greatly from electrophysiological studies. Electromyography (EMG) and nerve conduction investigations can identify and characterise any peripheral neurological pathology, whose exclusion would provide strong evidence in favour of a spinal cord process [5]. The three major treatments for TM are high dosage intravenous methylprednisolone (IVMP), plasma exchange, and/or intravenous cyclophosphamide [6].

CONCLUSION

As transverse myelitis is defined by inflammation in the spinal cord improvement in patient condition was seen after prescribing a systemic corticosteroid (Inj. Methylprednisolone). The diagnosis is supported by the patient's medical history, a neurological examination, and supporting tests such an MRI and CSF analysis.

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