ORIGINAL RESEARCH PAPER

Paediatrics

A CASE REPORT OF PEDIATRIC POST COVID ACUTE TRANSVERSE MYELITIS

KEY WORDS:

Dr.Sweety M. Patel Associate professor,Department of Paediatrics,Smt NHL Municipal Medical College,Ahmedabad

Dr. Bijal Shah Professor,Department of Paediatrics,Smt NHL Municipal Medical College,Ahmedabad.

Dr. Himshweta Balwani* 2nd year Resident, Department of Paediatrics, Smt NHL Municipal Medical College,Ahmedabad *Corresponding Author

Dr. Shruti Mistry 1st year resident , Department of Paediatrics , Smt. NHL Municipal medical college ,Ahmedabad

ABSTRACT

Acute transverse myelitis (TM) is a rare acquired neuro-immune spinal cord disorder that can present with the rapid onset of weakness, sensory alterations, and bowel or bladder dysfunction. Pediatric post-infectious acute transverse myelitis presents with a myriad of motor, sensory and autonomic involvement disturbances at the spinal cord level without any significant disturbances in the brain. Few cases have been reported worldwide and post covid proven cases are around 8 in the pediatric population worldwide. Early initiation of treatment with pulse therapy of steroids and prompt recognition can give promising results in the pediatric population. Hereby presented is a similar case, post infectious, COVID antibody proven.

INTRODUCTION

Acute transverse myelitis (TM) is a rare acquired neuro-immune spinal cord disorder that can present with the rapid onset of weakness, sensory alterations, and bowel or bladder dysfunction. TM can occur as an independent entity, usually as a post infectious complication, but TM also exists on a continuum of neuro-inflammatory disorders that includes acute disseminated encephalomyelitis, multiple sclerosis, myelin oligodendrocyte glycoprotein (MOG) antibody disease, neuromyelitis optica spectrum disorder (NMOSD), and acute flaccid myelitis (AFM). The clinical features, diagnostic work-up, and acute and chronic therapies differ between these forms of TM. Pediatric Transverse myelitis is a rare entity in itself , affecting about 2 per million children each year. It is characterized by rapid involvement in the form of motor, sensory and autonomic involvement at any level of the spinal In the current era of pandemic, with newer researches proving the possibility of neurotropic involvement of the novel Coronavirus, we hereby present an interesting case ofLongitudinally extending Transverse myelitis which was post infectious, COVID antibody proven. Only 8 cases of Post covid pediatric patients have been reported world wide.

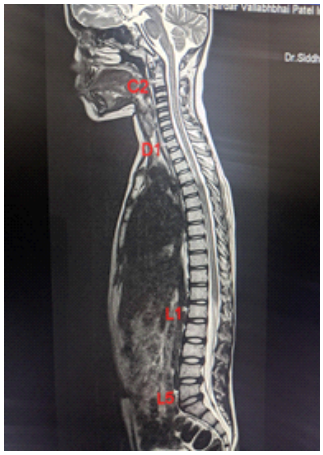
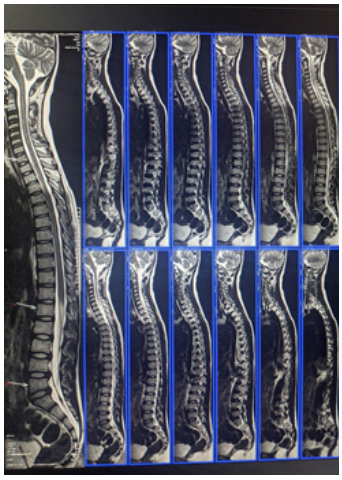


IMAGE 1 SHOWING NORMAL MRI WITH MARKERS AT LEVELS

IMAGE 2 SHOWING SCAN WITH HYPERINTENSE SIGNAL AT D2 TO D10 LEVELS DORSAL SPINE LEVEL



CASE STUDY

A 10 year old male child, weighing 25 kg, presented to the tertiary care centre with low grade fever once before 6 days, difficulty in passage of urine in form of urinary retention for 6 days and difficulty in walking in form of weight bearing for 3 days. Patient had consulted a private practitioner, catheterisation was done for urinary retention and patient was referred to tertiary care for further management. Past History and family history were insignificant. On general examination, the patient was conscious,oriented,undernourished and vitally stable . Patient had urinary catheter in situ.On CNS examination, higher functions were normal, sensory examination showed no clear demarcation for sensory involvement. On motor examination, muscle nutrition was normal and motor system showed decreased tone and decreased power (2 /5) in all 4 limbs.There were absent superficial reflexes, Bilateral Plantar Extensors, the deep tendon reflexes were brisk, and Autonomic system was affected in the form of Bladder involvement. Cranial nerves were normal and there were no signs of meningeal irritation. Romberg's test was positive and the patient was unable to balance body weight on both lower limbs. Rest of Investigations were done to ascertain the pathology and estimate the severity.Blood investigations (complete blood count, Renal Function Test, Liver Function Test, C reactive protein) were within normal limits . Blood

culture showed no growth . COVID Antibody titre was high (>10 IU/ml).Magnetic Resonance Imaging (MRI spine) showed hyperintensity involving Dorsal column, suggestive of changes of myelitis and mild cord expansion from D2 to D10 segments. There was no brain involvement on MRI.Based on investigations, diagnosis of longitudinally extensive transverse myelitis was made. Treatment was initiated in form of pulse therapy with methylprednisolone. Physiotherapy and supportive care in form of bladder training exercise were started .On 3rd day of admission, tone returned to normal and Romberg test was negative. By day 5 , patient was able to walk with support and plantar were flexors . Gait was normal on Day 6 and Patient was discharged on day 7 with catheter in situ. On discharge physiotherapy was advised with oral tapering of steroids over 4 weeks .On follow up after 3 weeks, MRI was done in which, Significant reduction in inflammation was noted from D2 to D10 level . After 3 more weeks of physiotherapy, bladder training exercises, patient regained full neurological recovery and bladder control after 6 weeks of symptom onset.

CONCLUSIONS:

Pediatric transverse myelitis accounts for 20% of the cases of acute transverse myelitis and being a rare disease, holds the potential to have significant comorbidity if left untreated. Early recognition and prompt treatment with steroids shows a promising result. Complete recovery isn't a dictum anD autonomic recovery is always variable. The scenario in children, however remains hopeful.

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