



REVIEW ARTICLE

SCRUB TYPHUS PRESENTING AS ACUTE TRANSVERSE MYELITIS: A RARE CASE REPORT

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ARTICLE INFO

Article History:

Received 20th June, 2024

Received in revised form

19th July, 2024

Accepted 19th August, 2024

Published online 30th September, 2024

Key words:

Scrub Typhus

Acute Transverse Myelitis.

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ABSTRACT

Introduction- Scrub typhus is a common zoonotic disease with high case fatality rate. Scrub typhus is also known as tsutsugamushi disease or bush typhus. The common neurological manifestations are meningitis and meningoencephalitis, whereas subdural hemorrhage, cerebrovascular accident, acute transverse myelitis are among rare neurological presentation. **Case report-**A 38 year-old married female, farmer by occupation, was admitted with complaints of high-grade fever with chills for 10days, nausea/vomiting for 8 days, weakness in bilateral lower limb (right>left) for 3days and numbness in bilateral lower limb for 3 days ,unable to pass urine for 1 day. A diagnosis of acute transverse myelitis secondary to scrub was made and patient was put on injection doxycycline 100 mg IV twice-daily ,injection ceftriaxone 1gm IV bd along with symptomatic treatment with hydration, antipyretics and supportive care. **Conclusion-** In this case, our clinical diagnosis according to the patient's history and examination was transverse myelitis secondary to scrub typhus , that was not correlated with the MRI .Physician and Radiologists should be aware of this to avoid exclusion or underestimation of the cord disease, they should correlate with the clinical data as well.

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Citation: Dr. Hemant Mahur, Dr. Roshan Singhadia, Dr. Shubhangi Gupta, Dr. Ranjeet Morya and Dr. Rajesh Meena. 2024. "Scrub typhus presenting as acute transverse myelitis: A rare case report." *International Journal of Current Research*, 16, (09), 29982-29983.

INTRODUCTION

Scrub typhus is a common zoonotic disease with high case fatality rate. Scrub typhus is also known as tsutsugamushi disease or bush typhus. It is a mite-borne acute febrile illness caused by Gram-negative intracellular organism called Orientia at sutsugamushi, which belongs to the family of Rickettsiaceae (1). Scrub typhus is seen in all terrains of the Tsutsugamushi triangle, a geographical region of south and east Asia and the southwest Pacific, and is related mostly to agricultural activities(2).The clinical presentation of this disease may vary from acute febrile illness, thrombocytopenia, gastrointestinal manifestations, coagulopathy to neurological manifestations. The common neurological manifestations are meningitis and meningoencephalitis, whereas subdural hemorrhage, cerebrovascular accident, acute transverse myelitis are among rare neurological presentations (3). Scrub typhus-induced neurological disease should be investigated to provide a timely and appropriate diagnosis and to reduce the mortality. A review of the literature suggests that acute transverse myelitis associated with scrub typhus occurring in the younger population is extremely rare. Here we report a successfully managed rare case of a young patient with scrub typhus who presented with acute transverse myelitis.

CASE REPORT

A 38 year-old married female, farmer by occupation, was admitted to Female Medicine Ward of RNT Medical College, Udaipur, Rajasthan with complaints of high-grade fever with chills for 10 days, nausea/vomiting for 8 days, weakness in bilateral lower limb (right>left) for 3 days and numbness in bilateral lower limb for 3 days, unable to pass urine for 1 day. There was no history of seizure/dyspnea. She had been treated with antimalarials, antibiotics, antipyretics and intravenous fluids but the symptoms did not subside and instead she developed complications for which she was brought to our hospital. At the time of admission, patient was well oriented to time, place and person. Her vital signs were pulse 120/ min, respiratory rate 22/min, oxygen saturation (SpO2) was 97% at room air and temperature was 102F (axilla). Her general physical examination revealed mild pallor. No eschar, icterus, lymphadenopathy, petechiae/purpura were seen. Central nervous system (CNS) examination revealed mental functions were normal, cranial nerve examination was normal, On motor examination bulk was found unequal in bilateral lower limb (right <left), while bulk was equal in bilateral upper limb.

On examination of tone Spasticity was present on bilateral lower limb while the tone was found decreased in bilateral upper limb, On examination of power we found power of both upper limb were 5/5, but power of right lower limb was 3/5, and power of left lower limb was 4/5, plantar was mute at right, flexor response on left. On examining deep tendon reflexes, all DTR were exaggerated, Abdominal reflex was present in upper part of abdomen while it was absent on lower part. On sensory examination we found that pain, touch, temperature was decreased below the level of nipples on right side but were present on left side. Joint position and vibration were also decreased on right side, spine was normal with no deformity or tenderness, there were no signs of meningeal irritation; Other systemic examination (respiratory/ cardiovascular/ gastrointestinal) showed no abnormality. So the clinical diagnosis of acute onset, rapidly progressive asymmetrical (right>left) paraplegia with sensory impairment with bladder bowel involvement was likely suggestive of acute transverse myelitis, which was most likely due to infective Etiology.

Comprehensive laboratory investigations were performed. The complete blood count (CBC) showed hemoglobin - 13 g/dL, total leukocyte count (TLC) - 8,200/cu mm, platelet count - 2.35 lakhs/cu mm. The liver and kidney function tests (LFT/KFT), chest X-ray, ECG, noncontrast CT (NCCT) scan of the head were unremarkable. Viral markers for hepatitis B and C viruses and human immunodeficiency virus (HIV) were also negative. Examination of cerebrospinal fluid (CSF) showed total protein - 38mg/dL, total cells - 3/cu mm (100% - lymphocytes). This patient was further subjected to specific tests relevant to acute febrile illness like CSF-adenosine deaminase (ADA) and CSF cartridge-based nucleic acid amplification test (CB-NAAT) for Mycobacterium tuberculosis along with CSF polymerase chain reaction (PCR) neuro-panel (for human adenovirus, enterovirus, parechovirus, HSV-1 and 2, parvovirus B19, Epstein-Barr virus, varicella-zoster virus, cytomegalovirus, herpes virus 6 and 7, which were negative. Dengue virus NS1 antigen, Dengue IgM (by ELISA), malaria parasite quantitative buffy coat (MP-QBC), serum ELISA test for chikungunya, Rubella, Japanese encephalitis viruses were also negative. Scrub typhus IgM (by ELISA) came positive. Ultrasonography of whole abdomen was found normal.

A diagnosis of acute transverse myelitis secondary to scrub was made and patient was put on injection doxycycline 100 mg IV twice-daily, injection ceftriaxone 1gm IV bd, along with symptomatic treatment with hydration, antipyretics and supportive care. Magnetic resonance imaging (MRI) brain and spinal cord (contrast-enhanced) was planned, which was found normal. The patient subsequently become afebrile 3 to 4 days after treatment and weakness improved over a period of next 4 days. During hospital stay, the patient was shifted to oral doxycycline and chloramphenicol. She was discharged on doxycycline for 14 days.

DISCUSSION

Scrub typhus is a zoonotic disease, which has re-emerged in various parts of India in last few years. It is Transmitted by trombiculid mite. Man is an accidental host. Infection rates are high in people living in rural areas with habit of open defecation, bare foot walking, people engaged in farming. Clinical manifestation might range from mild acute febrile illness to severe neurological complications and multi organ dysfunction. As in our case patient presents with acute transverse myelitis. Normal MRI doesn't exclude transverse myelitis as up to 40% of cases have no findings on MRI as stated by G. Scotti and S. Gerevini (4) In the early acute stage, the signal changes of the cord may be mild and questionable. Scrub typhus response to doxycycline was dramatic. Our patient improved within 5-7 days of starting the treatment for scrub typhus. Thus favouring our clinical diagnosis of acute transverse myelitis secondary to scrub typhus. Thus, early diagnosis and treatment is crucial to reduce complication rate and also case fatality rate.

CONCLUSION

In this case, our clinical diagnosis according to the patient's history and examination was transverse myelitis secondary to scrub typhus, that was not correlated with the MRI. Physician and Radiologists should be aware of this to avoid exclusion or underestimation of the cord disease, they should correlate with the clinical data as well. Early diagnosis and treatment definitely results in better outcome.

REFERENCES

1. Pandey RP, Konyak MB, Soni M, Saikia S, Chang T, Gogoi I, Khongstid I, Sharma M. Scrub typhus: epidemiology, clinical presentations, and diagnostic approaches
2. Xu G. *Scrub typhus: Epidemiology, Diagnosis, Treatment, Prevention and Control in the Asia-Pacific Area and Worldwide*(Doctoral dissertation).
3. Dr Mahesh Dave, Dr Deepanshu, Dr Nishant Mangla, Dr Anuj Goyal, & Dr Kanhaiya Lal Sharma. (2024). Scrub Typhus with Acute Bilateral Cerebellar Ataxia: A Rare Presentation. *Indian Journal of Clinical Practice*, 34(8), 43-45.
4. Scotti G. and Gerevini S. Diagnosis and Differential Diagnosis of Acute Transverse Myelopathy. The Role of Neuroradiological Investigations and Review of the Literature. *Neurol Sci*. 2001;22 Suppl 2(8):S69-73.
