

Case Report

Scrub Typhus with Cerebrovascular Accident (Intra cerebral Haemorrhage): A Rare Case Presentation

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ABSTRACT

Scrub typhus is one of the common zoonotic diseases seen in Tsutsugamushi triangle and has a high case fatality rate. It may present with varied clinical presentation from acute febrile illness, thrombocytopenia to neurological manifestation. The common neurological manifestation may be meningitis and meningoencephalitis and rarely cerebrovascular accident i.e. intracerebral haemorrhage. Intracerebral haemorrhage may be due to vasculitis or thrombocytopenia.

Keywords: Intracerebral haemorrhage, Scrub Typhus.

INTRODUCTION

Scrub typhus, also known as bush typhus is caused by gram negative intracellular organism *Oriental tsutsugamushi*. It is a serious public health problem in Asia pacific region, distributed predominantly in Tsutsugamushi triangle.¹ This disease is commonly seen in the rural belt of India and is common in farmers, military personnel, geologists, and mine workers. This disease typically occurs in rainy season. Scrub typhus spreads to people through bite of infected chiggers (infected larval mites).² There is an estimated one million new scrub typhus infection each year and over one billion people around the world are at risk.³ Scrub typhus may present clinically with variety of symptoms. Intracranial haemorrhage is a rare neurological manifestation reported in scrub typhus patient and is caused due to extensive vasculitis or severe thrombocytopenia. Without appropriate treatment, case fatality rate of this disease is 7%. Here we are reporting a rare case of a young patient of scrub typhus with mild thrombocytopenia with intracerebral haemorrhage.

Case description: A 20 year old male patient, non-

diabetic, non-hypertensive was admitted in Medicine ward of a tertiary care hospital attached to a Government medical college in Udaipur, Rajasthan with history of fever with chills, headache, malaise, and vomiting for the last 10 days. There was no significant past history of seizure, head injury, or drug addiction. On examination, there was no anemia, clubbing, cyanosis, icterus, oedema feet, and no hepatospleno-megaly. He was conscious and oriented to time, place, and person. All cranial nerves and deep tendon reflexes were normal with negative Babinski's sign. There were no signs of meningeal irritation on the day of admission. His vital signs were normal except he was febrile and temperature was 39.2 degree Celsius (oral). Looking at the acute febrile illness of the patient, a differential diagnosis of malaria, scrub typhus, and dengue fever was made. On investigation, CBC was normal except platelets which were mildly decreased on first day and was 99000 per mm³, on second day it was 1.98 lac per mm³ and on subsequent days it was normal. His liver and renal function tests were mildly deranged (urea-80 mg/dl, creatinine-1.18 mg/dl, total bilirubin 1.3 mg/dl, SGOT-289 IU/L, SGPT-15 IU/L, ALP-193 IU/L). His abdominal ultrasonography and chest X-ray were normal. The patient underwent specific investigation for febrile illness and found Dengue IgG, IgM, NS1 antigen negative, malaria parasite testing by slide and QBC (quantitative buffy coat) test was found negative but IgM ELISA for scrub typhus was positive. Patient was put on symptomatic management in the form of antibiotics, antimalarial, antipyretic, and intra venous fluid etc. Despite all these efforts, on the third day of admission the patient deteriorated in form of altered level of consciousness, two to three episodes of generalised tonic clonic seizures, and left hemiplegia. Hence, scrub typhus meningoencephalitis was suspected and investi-

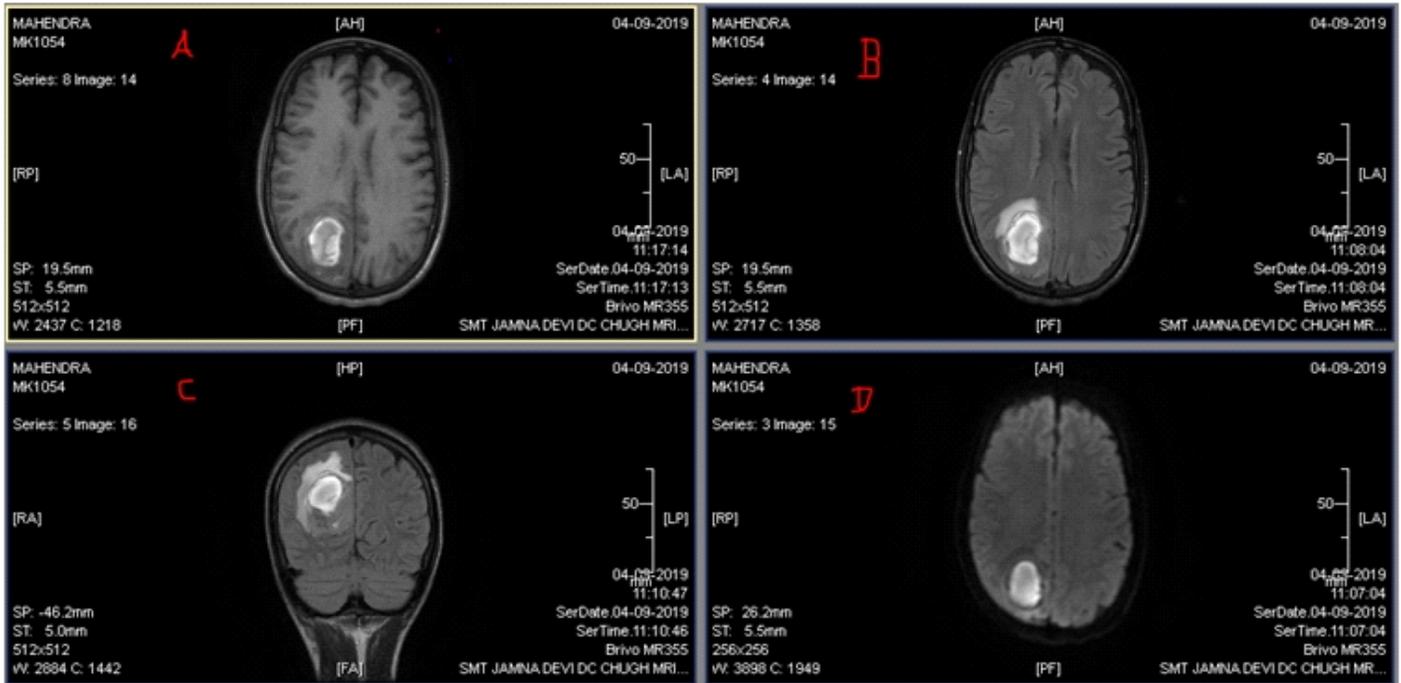


Figure 1: T1WI (A) Axial and Coronal T2WI (B,C) and Diffusion images (D) of brain magnetic resonance (MR) suggestive of large intra-cerebral haemorrhage in right high parieto-occipital region compressing right lateral ventricle.

gated further. His CSF examination showed clear fluid with total cell count 18 per mm^3 and all were lymphocytes, protein was 71.06 mg/dl, glucose 40.40 mg/dl, chloride 112 mEq/l, and adenosine deaminase 10.30 IU/dl. MRI brain was performed and showed a large intracranial haemorrhage in right parieto-occipital region compressing the right lateral ventricle. Patient was put on intravenous mannitol and antiepileptic drug with continuation of symptomatic management and was improved.

DISCUSSION

Cases of scrub typhus are having incremental trends in Rajasthan from last three to five years. Patients of Scrub typhus are mainly seen in rainy seasons (July to October) and sporadic cases have been reported throughout the year. Scrub typhus present clinically as fever, headache, myalgia, cough, and gastrointestinal symptoms predominantly and treated by using antibiotics such as Doxycycline/Azithromycin/ Rifampicin alone or in combination and cured within a week but few patients may present with thrombocytopenia, acute hepatitis, acute respiratory distress syndrome, acute myocarditis, acute renal failure, meningitis, encephalitis, meningoencephalitis, and intra-

cerebral haemorrhage etc. Neurological symptoms may be in the form of headache, altered sensorium, meningitis, acute disseminated encephalitis, meningoencephalitis, seizure, multiple cranial nerve involvement, and cerebrovascular accident in the form of infarct, haemorrhage, and cerebral venous thrombosis (CVT).⁴ Intracerebral haemorrhage is one of the rare neurological presentations seen in scrub typhus patients and caused due to extensive vasculitis or due to reduced platelet counts. There are very few cases of intracerebral haemorrhage reported with normal or mild decrease in the platelet counts and the probable mechanism may be vasculitis (as occurred in the present case where platelet count was 99000 per mm^3 on day first to 1.98 lac per mm^3 on subsequent days). Scrub typhus invades and activates vascular endothelial cells.⁵ Scrub typhus exaggerated immune response leads to widespread vasculitis and perivasculitis⁶ and hence manifest as meningitis, encephalitis, acute neuropathy, multiple cranial nerve involvements (2nd, 3rd, 6th, 7th and 8th), CVT, intracerebral infarct, and haemorrhage. A study by Texier P et al⁷ shows that various foci of vasculitis in the form of lymphocytic infiltration of blood vessels are seen in scrub typhus patient.

CONCLUSION

It is advisable that a patient of febrile illness should be evaluated for scrub typhus. If patient has neurological manifestations even with normal or mild thrombocytopenia then should be made to undergo neuroimaging timely so that scrub typhus and related neurological manifestations can be diagnosed earlier. This can be helpful in the management of complicated scrub typhus patients and in decreasing case fatality rate.

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