

Case Report:

Scrub typhus with bilateral pneumonitis: a case report

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ABSTRACT

Scrub typhus caused by *Orientia tsutsugamushi* is an uncommon cause of pneumonitis. We report a case of scrub typhus presenting with bilateral pneumonitis, left ventricular dysfunction and eschar. The present case reiterates the importance of careful physical examination in the early diagnosis of scrub typhus as aetiological cause.

Key-words: *Scrub typhus, Pneumonitis, Left ventricular dysfunction, Eschar*

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INTRODUCTION

Scrub typhus is caused by *Orientia tsutsugamushi*, which is principally a parasite of rodents and is transmitted by larval trombiculid mites (chiggers).¹ Clinical picture of scrub typhus includes fever, rash, myalgia and lymphadenopathy. A necrotic eschar at the inoculating site of the mite is pathognomic of scrub typhus. Complications of scrub typhus usually develop after the first week of illness. Jaundice, renal failure, pneumonitis, acute respiratory distress syndrome (ARDS), septic shock, myocarditis and meningoencephalitis are various complications known with this disease.²

Scrub typhus along with leptospirosis, malaria or dengue fever is one of the differential diagnoses in patients presenting with haemorrhagic fevers, especially if associated with jaundice and/or renal failure.³ We present the case of a patient who presented with bilateral pneumonitis who was subsequently diagnosed to have scrub typhus infection, a rare sporadic disease in the Guntur area in South India.

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CASE REPORT

A 28-year-old female patient presented with shortness of breath since 2 days that rapidly progressed in severity and the patient also developed orthopnoea. She gave a history of low grade fever of 5 days duration, one week back. There was no history of cough, jaundice, bleeding manifestations, myalgia, headache and joint pains, decreased urine output, vomiting, diarrhoea and other gastrointestinal disturbances. There was no past history of diabetes or hypertension, nor any recent travel.

On general physical examination, patient was conscious and coherent. There was no jaundice;

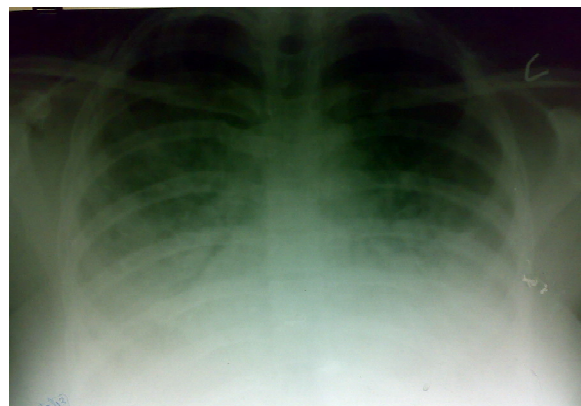


Figure 1: Chest radiograph (poster-anterior view) showing bilateral pneumonitis

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and pedal oedema was not evident. Respiratory rate was 46 /minute, pulse was 120/min and blood pressure was 100/60 mm Hg. She was afebrile. Respiratory system examination revealed bilateral decreased breath sounds in infra scapular, infra mammary and infra axillary areas, associated with bilateral crepitations and raised vocal resonance. Chest radiograph was suggestive of bilateral pneumonitis (Figure 1). Oxygen saturation was 70% with oxygen supplementation on pulse oximetry. Patient required tracheal intubation and mechanical ventilation was started. She was started on injection ceftriaxone and azithromycin. Other laboratory investigations revealed: blood urea 50 mg/100 mL, serum creatinine 1.3 mg/100 mL, serum sodium 153 mEq/L, serum potassium 4.3 mEq/L, serum chloride 118 mEq/L, serum bicarbonate 20 mEq/L. Liver function tests were normal. Viral markers and strip test for malaria were negative.

On the second day of admission, patient developed severe hypotension and tachycardia. Myocarditis with left ventricular dysfunction considered. She was given inotropic support with dopamine. Electrocardiogram showed low



Figure 2: Clinical photograph showing eschar on the chest wall

voltage complexes. Echocardiogram showed global hypokinesia with severe left ventricular systolic dysfunction with an ejection fraction of 25%.

While she was undergoing echocardiography, an eschar was noticed between sternum and left breast (Figure 2). Then doxycycline and ciprofloxacin were added to the treatment. Blood sample was sent for scrub typhus immunoglobulin M (IgM) test by enzyme linked immunosorbent assay (ELISA) and the report came as positive. Three days later, her condition improved and patient was weaned off the ventilator support and was subsequently discharged from the hospital.

DISCUSSION

Indigenous people of areas endemic for scrub typhus commonly have a less severe illness, often without any rash or eschar. This is one of the most common causes of 'pyrexia of unknown origin'. Other features are severe headache, drowsiness, apathy, pain in the shins and other muscles and more characteristically generalized lymphadenopathy and hepatosplenomegaly. In severe cases, meningoencephalitis ensues with neck stiffness, delirium, focal signs, papilloedema and coma. Myocarditis may complicate this phase, and oliguria with uraemia is common in severe cases.⁴ Severe cases typically include encephalitis and interstitial pneumonia due to vascular injury.⁵

Scrub typhus should be considered in the differential diagnosis of acute febrile illness associated with gastrointestinal symptoms, rash, myalgias, including those with organ dysfunctions such as hepatorenal syndrome, coagulopathy or ARDS.³ Though eschar is pathognomonic of the disease, it may not be commonly seen, and its absence does not "rule

out” scrub typhus. Delay in treatment may lead to complications and higher mortality. As patients respond to doxycycline or macrolides, empirical treatment with these antibiotics may be given in cases where there is a strong suspicion of scrub typhus.³

In this case, the differential diagnosis includes severe community acquired pneumonia, viral pneumonias including H1N1 influenza (no recent outbreak) and leptospirosis and scrub typhus. That was why; azithromycin (which covers leptospira and scrub typhus) was added empirically to ceftriaxone, though we did not suspected scrub typhus infection at that time.

We are reporting this case of scrub typhus with bilateral pneumonitis to highlight the need for suspecting scrub typhus as the aetiological cause in patients presenting with pneumonitis, especially associated with multiorgan involvement. The condition usually responds dramatically to antibiotic treatment.

REFERENCES

1. Shandera WX, Roig IL. Viral and rickettsial infections. In: Papadakis MA, McPhee SJ, editors. Current medical diagnosis and treatment, 52nd edition. Philadelphia: Mc Graw Hill Publishers; 2013. p.1411.
2. Mahajan SK. Scrub typhus. J Assoc Physicians India 2005;53:954-8.
3. Narvencar KP, Rodrigues S, Nevrekar RP, Dias L, Dias A, Vaz M, et al. Scrub typhus in patients reporting with acute febrile illness at a tertiary health care institution in Goa. Indian J Med Res 2012;136:1020-4.
4. Cowan GO, Friman G, Günther G. Rickettsial infections. In: Cook GC, Zumila AL, editors. Manson's tropical diseases. 22nd edition. Philadelphia: Saunders; 2008.p.894-7.
5. Walker DH, Dumler JS, Marrie T. Rickettsial diseases. In: Longo DL, Kasper DL, Jameson JL, Fauci AS, Hauser SL, Loscalzo J, editors. Harrison's principles of internal medicine. 18th edition. Philadelphia: McGraw Hill Publishers; 2012.p.1413.