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CASE REPORT

SCRUB TYPHUS PRESENTING AS LOBAR PNEUMONIA: A CASE REPORT ON UNCOMMON PRESENTATION OF SCRUB TYPHUS

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ABSTRACT

Scrub typhus is an acute febrile illness which is noted in children increasingly nowadays but it is often underdiagnosed mostly due to its atypical presentation. In this report, we present a case of 10 years old boy, who was initially diagnosed as lobar pneumonia but later confirmed to be suffering from scrub typhus infection. The child had typical clinical as well as radiological features of community-acquired pneumonia. Further investigations were done due to non-response to initial treatment which led to the diagnosis of scrub typhus infection. Specific treatment with doxycycline showed dramatic response and the child improved clinically. So it is absolutely essential for the treating physician to have high index of suspicion of this re-emerging infectious disease.

KEY WORDS: Scrub typhus; Pneumonia; Doxycycline.

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INTRODUCTION

Scrub typhus is a rickettsial infection caused by Orientia tsutsugamushi, a strict intracellular pathogen and is transmitted by larval trombiculid mites from rodents. The common clinical presentation of scrub typhus includes fever, headache, generalized lymphadenopathy, vomiting, diarrhoea, myalgia cough, transient hearing loss and rash.[1] There is formation of eschar at the site of tick bite which is a hallmark feature of scrub typhus infection. Complications include acute respiratory distress syndrome, gastrointestinal bleeding, acute renal failure, meningoencephalitis, DIC.[2] This case is an example of atypical presentation of scrub typhus which was misdiagnosed initially delaying the initiation of appropriate treatment.

CASE PRESENTATION

A 10-year-old-boy came with complaints of fever with chills, myalgia and cough for five days. On examination, he was febrile, tachyponeic (30 breaths/ min) with blood pressure of 90/70 mmHg and saturation of 91% at room air. There was no eschar, skin rash, lymphadenopathy or hepatomegaly. Systemic examination revealed tubular bronchial breathing in the right infraclavicular and axillary areas along with fine crepitations. His abdominal, cardiac and CNS examination were normal. Both clinical features as well as radiological findings showed right upper lobe consolidation which was diagnosed as community-acquired pneumonia and child was started on injection ceftriaxone suspecting bacterial infection along with oxygen. Arterial blood gas analysis showed hypoxemia with respiratory alkalosis. Chest x-ray taken at the time of admission revealed right upper zone heterogenous opacities with air bronchogram mimicking lobar pneumonia. Blood investigations showed normal WBC count and negative gram staining of sputum with no growth in culture. Both these findings contradicted the diagnosis of lobar pneumonia. Further Mantoux test was done to rule out tuberculosis infection and it turned to be negative. Patient showed no improvement even after two days of treatment and he developed breathlessness and high-grade fever. CT scan also showed right upper lobe consolidation with air bronchogram. Since WBC count was normal and patient worsened even after treatment with antibiotics, IgM ELISA for scrub typhus was sent to rule out the infection which is highly prevalent in our area. Child tested positive for scrub typhus infection. So he was immediately

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started on oral doxycycline. He showed drastic improvement within 24 hours and his fever spikes and respiratory distress got settled. Repeat chest x-ray showed no opacities after 3 days of treatment which was very unlikely in pneumonia since it takes time for radiological changes to settle. He completed 14 days of oral doxycycline and got discharged from hospital. He became asymptomatic and normal on follow up within a week.

DISCUSSION

Scrub typhus is one of the diseases which is having high incidence among children at present. It accounts for up to 50% of undifferentiated fever presenting to the hospital in some parts of India.[3] It has high mortality rate if it is not diagnosed early and treated promptly due to high risk of complications especially in endemic areas. It is characterised by focal/disseminated vasculitis and perivasculitis affecting multiple organs resulting in multiorgan dysfunction. It is often missed due to lack of typical clinical features and variable presentation. In endemic areas, patient must be examined carefully for eschars on hidden areas of the body as it is highly specific for scrub typhus. It may present as myocarditis, shock like features resembling dengue shock syndrome, HLH (hemophagocytic lymph histiocytosis) or with seizures. Immunofluorescence assay (IFA) is the gold standard serological diagnostic method but it is not widely used due to high cost. IgM ELISA is the most commonly used screening as well as confirmatory test for scrub typhus.

Lung involvement in scrub typhus is seen in 58.4% patients in the form of cough and dyspnea.[4] It may range from simple cough to life threatening respiratory distress syndrome. Chest x-ray abnormalities are seen in 59 to 72% of patients.[5] It shows interstitial pneumonia, hilar lymphadenopathy, bilateral diffuse reticulonodular opacities and pleural effusion. More the severity of interstitial pneumonia, more the mortality from scrub typhus. Massive consolidation of upper lobe is seen only in rare cases of scrub typhus. Thus it may present with unusual findings resembling pneumonia.

CONCLUSION

Lobar pneumonia which is mostly due to bacterial infection can be seen in scrub typhus also delaying the administration of appropriate antibiotics. So it is often essential to do serological testing for scrub typhus in highly endemic areas to rule out the disease. Early diagnosis and appropriate treatment is essential to prevent morbidity and mortality from scrub typhus infection.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
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Conception or Design:	RS, RR
Acquisition, Analysis or Interpretation of Data:	RS, RR, APK, SS
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All the authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.