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Case Report

Typhus Fever: An uncommon childhood infection—Report of a Case from Northern Region of Bangladesh

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Abstract

Typhus fever is not a common problem in childhood and mostly it is misdiagnosed. In this child, the clinical diagnosis was typhoid fever. On admission the child was presented with long standing fever with splenomegaly supported by significant widal test. Despite appropriate treatment, the patient was not responding. Later, most common differential diagnoses were thought to be tuberculosis and typhus fever. Finally, a co-infection of typhoid and typhus fever was discovered. This uncommon presentation should be taken into consideration in difficult to treat prolonged fever in children.

Key words: Typhus; Weil-Felix test; Typhoid; Bangladesh.

INTRODUCTION

Rickettsial diseases are widely distributed throughout the world and many recent reports suggest to their continued presence in several parts of the subcontinent.[1–4] But epidemic and endemic typhus is sometimes misdiagnosed as typhoid fever in tropical countries.[1] Similarly, co-infection with typhoid fever may occur that may be overlooked. Prolonged fever that is not usually responded to conventional medicines should lead to a different etiology of fever including typhus. Therefore, clinical suspicion is the paramount to diagnose typhus fever. To date, the diagnosis of a rickettsial illness has most often been confirmed by serological diagnosis as specific gold standard techniques like the immunofluorescence antibody test (IFA). Immunoperoxidase (IP) test are not readily available in our country and the isolation of the organisms in animals or cell culture is limited due to the lack of containment facility as well as expertise in handling these high-risk group pathogen.[2,5] As a good correlation between the results of the Weil-Felix test and detection of IgM antibodies by an IFA is observed, this test can be the first line of testing in hospital laboratories.[2] So in most cases, treatment is based on clinical suspicion and positive Weil-Felix test. In clinically suspected cases of typhus fever, a rising titer of OX2, OX2 and OX19 antigens supports the diagnosis. Here, I present a case of typhus fever with a co-infection of typhoid fever in a patient admitted in the Department of Paediatrics, Rangpur Community Medical College.

CASE HISTORY

Master Rezwan, a three and half year old previously healthy boy of poor socio-economic status, hailing from a remote area of Gaibandha district was admitted with the complaints of high grade intermittent fever associated with chills and rigor for couple of weeks. In the beginning, there was a history of widespread

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rashes all over the body that remitted spontaneously. The child did not have the significant history of cough, burning micturation, unconsciousness, convulsion, or contact with any tubercular patient. He received unspecified medicines including injectables at home. No significant past illness was reported. He was immunized with regular EPI vaccines but not vaccinated with typhoid vaccines. On admission, the patient was alert, oriented, febrile, mildly pale without any significant jaundice or cyanosis. His pulse was 88 bpm, regular and good in volume; respiratory rate was 29 per minute; and BP was 100/75 mm of Hg, no lymphadenopathy and BCG mark was present. On examination, his breath sounds were vesicular, no added sound was noted. Abdomen was soft, mildly tender. There was mild hepatomegaly, but no splenomegaly. Other systemic examination revealed normal findings. The patient was initially diagnosed as enteric fever and treatment was started with intravenous ceftraixone at 80 mg/kg/day dose along with other supportive measures.

By this time, some laboratory reports were available in our hand. It showed that total white blood cell count was 11500/cumm with polymorphs 76%, lymphocytes 20%, eosinophils 4%, and monocytes 1%. Total platelets were 2,60,000/cu mm. Peripheral blood film showed neutrophilic leucocytosis. Random blood sugar was 7.9 mmol/L, urinalysis was normal.

On the second day of treatment, the patient was still toxic, ill-looking, fever was not subsided, and appetite was not regained. The above treatment was continued keeping this in mind that enteric fever took time to respond.

Later, widal test, blood and urine culture report, MT report was in our hand. That showed widal was not significant, culture showed no growth, MT was negative. ICT for malaria was negative. Above mentioned treatment did not carry any good subjective and objective response till day 6. The parents were very much anxious and frustrated. Then we have taken the decision to do the febrile antigen test. And surprisingly, we noticed that Weil-Felix titres were: OX2 = 1:160, OXk = 1:640, Brucella = 1:80. Now we had started treatment with Capsule Doxycycline 100 mg daily omitting intravenous ceftriaxone. Three days later, fever began to subside and Rezwan felt better. We continued the treatment for 7 days and the child became fully recovered from prolonged fever. We discharged this patient at day 16 of admission with multivitamins and mineral supplementation and gave him a follow-up after 1 month.

DISCUSSION

Scratching of a louse-bite site allows the rickettsia and enters the blood stream. Later, it causes vasculitis and related complications.[1] This is why, typhus fever is associated with rashes commonly, but it is not true for all cases like this one. When a fever is unremitting with the conventional medicine, we are in search of the rare diagnosis. Most of the cases, typhus fever is misdiagnosed as enteric fever and surprisingly sometimes it may be associated with it, too.[6] Despite appropriate treatment with antibiotics, the clinical response of this group of patient is not optimum. So, there is no alternative way to diagnose and identify the case and implementing appropriate medication to achieve better response. Keeping the differential diagnosis in mind as enteric fever, tuberculosis, malaria, infectious mononucleosis, clinical and laboratory exclusion is necessary.

Leukopenia is common in early stages of disease. Total white blood cell count may be normal or mildly elevated. Thrombocytopenia is common. None of these findings were not found in our case. A rise in OX titre is suggestive of typhus fever, and polymerase chain reaction (PCR) is confirmatory. Here, clinical response was achieved with doxycycline as typhus fever suggested by elevated OX titre, PCR was abandoned due to unavailability.

The disease can be prevented by maintaining good personal hygiene, improving lifestyles, avoiding endemic areas, and crowding.[6]

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