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A case series of Scrub typhus with massive splenomegaly and splenic infarct in a tertiary care hospital of Kolkata

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Abstract

Scrub typhus, an acute febrile zoonosis, can have different presentations ranging from interstitial pneu monitis, acute respiratory distress syndrome, myocarditis, acute renal failure, hepato megaly and splenomegaly. Al though splenomegaly is found in some of the cases, splenic infarct is very rare. Here 4 cases of scrub typhus with massive splenomegaly and splenic infarct has been demonstrated. Early use of antibiotics with supportive treatment decrease the complications and result in resolution of symptoms as evidenced by regression in size of spleen. So clinical suspicion and awareness is required for early diagnosis, as delay in treatment may lead to a dismal outcome

Keywords: Scrub typhus, Splenomegaly, Splenic infarct

Abbreviations

Hb-Hemoglobin, KFT- Kidney function test, LFT- Liver function test, TLC- Total Leucocyte Count

Introduction

Scrub typhus, a rickettsial disease, caused by Orienti at sutsuga Mushi, is transmitted by the bite of trombiculid mite [(1)]. The illness varies from mild, self-limiting disease to a fatal one. Severe cases manifest with encephalitis, interstitial pneumonia, acute respiratory distress syn drome, acute renal failure and multiple organ failure [(2)]. Hepatosplenomegaly has been found in scrub typhus, but massive splenomegaly with splenic infarct is very rare. Here 4 cases of scrub typhus with massive splenomegaly and splenic infarct has been reported.

Case vignettes

Table 1: Clinical and demographic profile of the patients is described in Table 1.

Cases	Demographic profile	Clinical features	Investigations
1	27 years old married female	High grade fever with chills and rigor, dull pain over left hypochondrium, generalized body ache.	Hb- 5 gm%, Albumin- 2.8g/dl, IgM Scrub typhus- Reactive (OD = 73. 5), KFT, LFT, TLC, Platelet count, Urine routine examination- Within normal limit.

		On examination- Febrile, Tachycardia, gross pallor, palpable mild tender spleen measuring 9 cm below the sub costal margin & a palpable liver measuring 3 cm below right subcostal margin.	Malarial parasite, IgM Dengue, Leptospira, S. typhi – Negative Ultrasound abdomen- Enlarged spleen measuring around 19.5cm with hypoechoic wedge-shaped area in the spleen, suggestive of subcapsular splenic infarct. CT abdomen- Enlarged spleen (19.7x7.5cm) with an wedge shaped area of non-enhancement in the splenic parenchyma. 2D echo- Normal HRCT Thorax-Interlobular interstitial thickening in both lungs.
2	17 years old female	High grade fever, myalgia, dry cough and pain abdomen On examination- Mild pallor, Eschar present over right axilla, Palpable spleen measuring around 8-9cm below subcostal margin.	Hb-10.5 gm%, IgM Scrub typhus – Reactive Ultrasound abdomen- Enlarged spleen with hypoechoic wedge-shaped area in the spleen. CT abdomen- Enlarged spleen (18.5x7.3cm) with an wedge shaped area of non-enhancement in the splenic parenchyma. Malarial parasite, IgM Dengue, Leptospira, S. typhi – Negative
3	43 years old male	High grade fever, headache, pain over left upper abdomen On examination- Febrile, Pallor present, Eschar preent over back, Palpable spleen measuring around 7cm below subcostal margin.	Hb-12 gm%, IgM Scrub typhus – Reactive Ultrasound abdomen- Enlarged spleen with few wedge-shaped hypoechoic areas in the spleen. CT abdomen- Enlarged spleen (16.5x7.3cm) with multiple wedge-shaped area of non-enhancement in the splenic parenchyma, suggestive of splenic infarcts. Malarial parasite, IgM Dengue, Leptospira, S. typhi – Negative
4	40 years old female	High grade fever with chills and rigor, cough, shortness of breath and pain over left upper abdomen. On examination: - Febrile, Tachypnoea, Tachycardia, pallor present, palpable mild tender spleen measuring 7.5	Hb-11 gm%, IgM Scrub typhus – Reactive Ultrasound abdomen- Enlarged spleen with an wedge shaped hypoechoic area in the spleen. CT abdomen- Enlarged spleen (17.6x7.3cm) with a wedge-shaped area of non-enhancement in the splenic parenchyma, suggestive of splenic infarct. HRCT Thorax- Bilateral mild pleural effusion with adjacent

		cm below the subcostal margin & a palpable liver measuring 3 cm below right subcostal margin, bilateral basal crepitations present over lung fields.	atelactasis. Malarial parasite, IgM Dengue, Leptospira, S. typhi – Negative

Discussion

Scrub typhus is endemic in Korea, China, Taiwan, India, Pakistan, etc. Severity of illness can range from gastrointestinal, respiratory and neurological symptoms to septic shock and multiorgan failure causing death [(3)].

Gastrointestinal complications include nausea, vomiting, diarrhea, pancreatitis, gastro intestinal bleed, hepato megaly and splenomegaly [(4).] Although splenomegaly is seen in up to 8% of cases, splenic infarction is very rare [(5,7)].

The underlying pathophysiology involves disseminated or focal gastrointestinal vasculitis. Splenic infarction in scrub typhus is mainly due to compromise of splenic vascular supply, secondary to vasculitis [(6)]. Few such cases were reported previously .1st case was reported from Korea in 2004 [(5)].

In India, 1st case was reported from Vellore, South India in 2014[(6)]. In all the above four cases, the splenic infarct was delineated on ultrasound abdomen and confirmed on CT findings.

A course of oral doxycycline was started and rapid clinical improvement was noticed within a week of starting antibiotic. Spleen regressed in size and the symptoms disappeared on completion of therapy.

Conclusion

Scrub typhus is an emerging cause of undifferentiated fever in India. Lack of awareness and low index of clinical suspicion leads to diagnostic delay. And among the complications, splenic infarct is a rare cause of pain abdomen. So patients presenting with fever, pain abdomen and splenomegaly, should be evaluated for scrub typhus and ultrasound or CT abdomen should be done to rule out splenic infarct.

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