

Enteric fever presenting with rupture of splenic abscess and pyothorax- A case report

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ABSTRACT

Enteric Fever can present with various complications which include intestinal and extraintestinal. Splenic abscess is a rare extraintestinal complication accounting for only about 0.2 to 0.7 % cases. We report case of enteric fever who presented with history of generalised weakness and breathlessness since 15 days. On investigation it showed that patient is having massive left pyothorax with splenic rupture. This suggests that along with other complications, enteric fever can also be associated with pyothorax, which is often ignored during clinical practice.

Key words: enteric fever, pyothorax, splenic rupture.

INTRODUCTION

Over 22 million new cases of enteric fever occurs every year worldwide, especially in India and Africa causing 2,00,000 death per year. Enteric fever is systemic disease caused by *Salmonella typhi*, with an incubation period varying from 3 to 21 days. It is characterized by fever, headache, chills and abdominal pain. Various complications can occur secondary to this infection which includes gastrointestinal, nervous system, skeletal system, and respiratory system. Splenic abscess is one of the rare complication accounting for about 0.2 to 0.7 % of cases.^{1,2}

CASE REPORT

A 58 year old postmenopausal woman came to casualty with complains of generalized weakness, breathlessness since 15 days and post menopausal vaginal bleeding one episode. She was not a known case of diabetes, hypertension, IHD and asthma.

On examination she was toxic, but conscious and oriented, Pulse- 100/min, B.P.- 100/70 mm of Hg, dullness on percussion on left hemi thorax with decreased breath sound on same side. Moderate splenomegaly was present without guarding, rigidity or tenderness of abdomen. Blood investigations, chest X-ray, Ultrasonography of abdomen, CT scan of abdomen-chest were performed and pleural tapping was done.

Blood investigation

Total Leucocytes	24,700 / cmm	Blood urea	29 mg %
Hemoglobin	10.6 m%	S. Creatinine	1.2 mg%
PCV	37.1%	S. Sodium	139 mmol/l
Neutrophil	84%	S. Potassium	3.7 mmol/l
Lymphocyte	15%	Albumin	2.2 gm%
ESR	90 mm / hr	Globulin	4.2 gm%
Platelets	6.55 lakh/ccm	A/G ratio	0.5%

Ultrasonography showed spleen having non-specific hypoechoic areas (Abscess/Infarcts/Lymphoma/Granuloma); and massive pleural effusion on the left side.



Fig. 1: Chest X-ray: Left sided massive pleural effusion with shift of mediastinum to opposite side.



Fig. 2: The CT- Chest post – contrast reveals evidence of Splenic rupture secondary to underlying infarct/abscess with trans-diaphragmatic extension and pericardial effusion.

Pleural tap showed plenty of pus cells, ZN staining negative, 94% Neutrophil, 6% Lymphocyte, sugar 90 mg%, protein 7.5 gm%. Blood culture showed *Salmonella typhi* growth. Peripheral Smear showed neutrophilic leucocytosis with thrombocytosis. Patient was put on antibiotic, intercostal drain and supportive care on the day of admission. Next day patient went into septic shock and measures to revive her were not successful.

DISCUSSION

Malaise, as an initial presentation in enteric fever, is seen in only 10% of the cases. In view of breathlessness and dull note on percussion and reduced air entry on left hemithorax, chest x ray was done and it showed massive left pleural effusion. The pleural tap was done as a therapeutic as well as diagnostic procedure. For a massive effusion with empyema like features, intercostal drainage was put in place.

As the patient didn't show any typical features of enteric fever, it was considered only after the culture was positive for *Salmonella typhi*. Also, in enteric fever, there is typically leucopenia along with neutropenia. But in this case there was obvious leucocytosis (24,700 cells/ cmm) with

84% neutrophils. In enteric fever, this happens only in case of intestinal perforation or a pyogenic complication leading to secondary leucocytosis. Thus, we had the reason to believe that the 'hypochoic areas' in the spleen as per the ultrasonography, were actually areas of splenic abscess.³

The CT scan of the chest was requested as the initial tap yielded hemorrhagic fluid. Thus, there was suspicion of malignancy, before the reports of the pleural tap came. There could have been a possibility of infarct as per the CT scan analysis purely, as spontaneous splenic infarcts are common in thrombocytosis and are associated with an increased risk of rupture.³ Also, many reported cases of trans-diaphragmatic rupture in cases of splenic infarct are known.⁴ But the points favoring splenic abscess far outweigh the points favoring infarct.

There is no mention of splenic infarct in literature pertaining to complications of enteric fever. The pleural fluid, on examination, was thick and hemorrhagic. Pleural fluid analysis showed numerous pus cells, which tells us that it was, in fact, massive empyema. The hemorrhagic aspirate could be perceived as a hemorrhagic tap, a result of coagulopathy as a complication of enteric fever. Also, it could have been blood seeping in from the spleen into the pleura. In CT Hounsfield units point to a collection of a 'thick fluid', probably an abscess.⁴

Empyema along with the compromise of the diaphragm above the spleen leads us to believe that the abscess must have seeped in from the spleen, through the diaphragm into the pleura. For if it was primary empyema at such a gross level, there should have been chest pain as a part of the pleuritic process. But the patient did not have any such complaints.

Thus, the secondary leucocytosis, the non-specific hypochoic areas in the spleen along with the massive empyema and the relative absence of chest pain point towards a ruptured splenic abscess.

In conclusion enteric fever can complicate respiratory system and represent with pyothorax and splenic rupture which needs to be considered in patients with enteric fever.

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