

Case report**A rare case of a massive unilocular typhoid splenic abscess in Sri Lanka: A Case Report**

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*Sri Lankan Journal of Infectious Diseases 2023 Vol.13(2):E49:1-5*DOI: <https://doi.org/10.4038/sljid.v13i2.8572>**Abstract**

Splenic abscesses are commonly reported in patients with immunosuppression, abnormalities in the spleen due to trauma or haemoglobinopathies and diabetes. Typhoid fever causing isolated splenic abscess is a rarity. We report a case of a splenic abscess in a previously well patient without any predisposing risk factors and previous illness clinically suggestive of typhoid fever.

A 22-year-old Sri Lankan woman was admitted to a tertiary care hospital in Sri Lanka with a 2-week history of high-grade fever with chills and rigors, and abdominal fullness. Palpation revealed a large firm mass in the left upper quadrant which was confirmed as a massive spleen on ultrasonography. Contrast CT of the abdomen showed a large hypodense lesion within the spleen. A drain was inserted radiologically which drained a purulent fluid. Culture of the drain fluid grew *Salmonella* ser. Typhi. She made an excellent recovery with antibiotics.

Typhoid is a rare but reported cause of splenic abscesses. It could occur even in patients with no apparent risk factors. Early diagnosis and treatment lead to an excellent clinical outcome.


Keywords: *Splenic abscess, Typhoid fever, Salmonella Typhi*

Introduction

In clinical practice, splenic abscesses are uncommon. However, they carry a very high case fatality rate if the diagnosis is overlooked. They are commonly encountered as a result of infective endocarditis. *Streptococcus* sp., *Staphylococcus* sp. (owing to endocarditis being the most prevalent cause of splenic abscess), *Mycobacterium* sp., fungi, and parasites are frequently isolated pathogens. In various parts of the world, *Burkholderia pseudomallei* causes splenic abscesses in predisposed persons.¹

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Among them, *Salmonella* ser. Typhi related splenic abscesses have been shown to be extremely infrequent. A splenic abscess is known to occur between 0.29% and 2% of the time in patients with typhoid fever as a complication.² This low incidence is owing to the phagocytic activity of the reticuloendothelial system and leukocytes related to the spleen.³ Therefore, immunosuppression, abnormalities in the spleen caused by trauma or hemoglobinopathies, and diabetes are considered to be common predisposing factors for splenic abscesses.¹ We present a case of a massive splenic abscess caused by *Salmonella* ser. Typhi in an otherwise healthy Sri Lankan woman.

Case presentation

A 22-year-old Sri Lankan woman who was apparently well was admitted to a tertiary care hospital with a two-week history of high-grade fever, chills, and rigors. She was treated on day 2 of illness with a course of co-amoxiclav 625 mg 8 hourly for 5 days followed by a three-day course of azithromycin. She complained of mild diffuse abdominal pain. She was averagely built and was not pale or icteric. She did not have any peripheral stigmata of infective endocarditis. Her blood pressure was 110/70 mmHg and precordial examination did not reveal any murmurs. The respiratory examination was unremarkable. The abdomen was distended and there was a fullness of the left upper abdomen. Examination of the abdomen revealed a firm mass in the left hypochondrium clinically compatible with a massive spleen. Her total white cell count was 12×10^9 /L (neutrophils 72.4%) with a C-reactive protein level of 278 mg/L and haemoglobin of 12.2 g/dl. Her serum ferritin level was elevated up to 1742 ng/ml. Renal functions and liver investigations were normal.



Figure 1.
CT scan of the abdomen showed the massive unilocular splenic abscess.

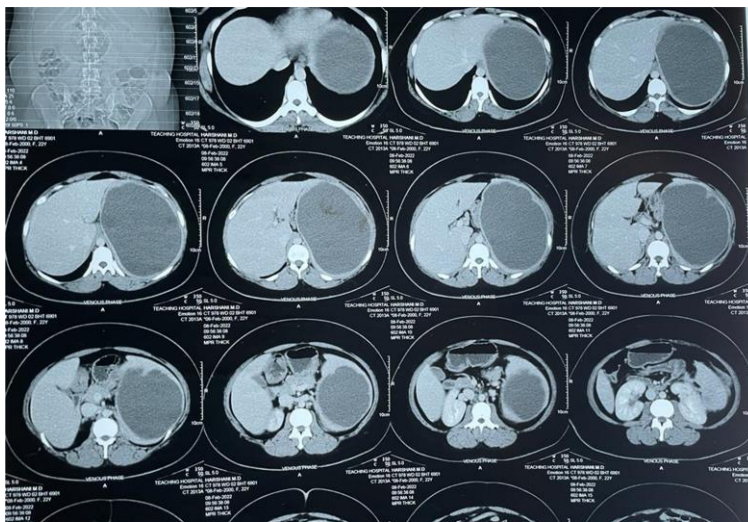


Figure 2.
CT film illustrating the depth of the splenic abscess.

She had a CECT abdomen which revealed a large oval-shaped hypodense lesion of $18 \times 16 \times 13$ cm (Figures 1 and 2) without intralesional septations, solid areas or calcifications.

Her chest X-ray was normal. She tested negative for HIV. Her melioidosis serology came as negative and her HbA1c level was 5.3%.

The cyst was drained under ultrasound guidance, and a purulent fluid was aspirated.

Culture of the aspirate grew *Salmonella* ser. Typhi which was sensitive to ciprofloxacin and ceftriaxone.

She was initially treated with intravenous meropenem 1 g 8 hourly and subsequently downgraded to intravenous ceftriaxone 1 g twice daily. She made a remarkable improvement with the antibiotic treatment. Intravenous antibiotics was continued for 14 days and switched to oral ciprofloxacin 500 mg twice daily for another 2 weeks. The timeline of her illness is given in Figure 3.

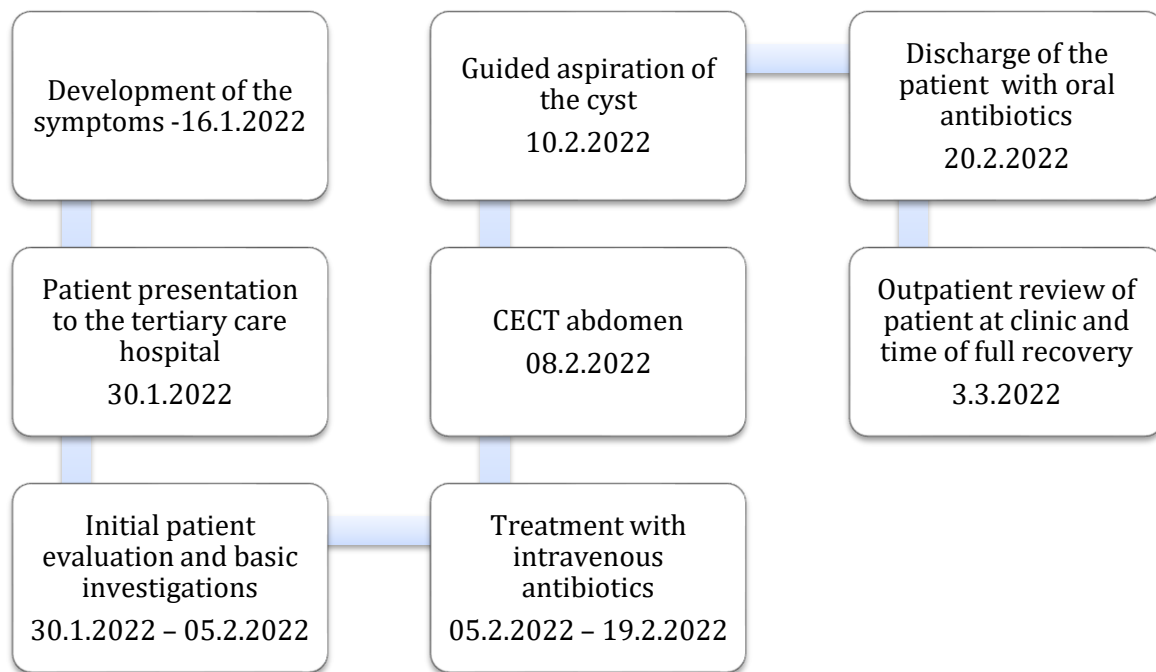


Figure 3. Timeline of illness

Discussion

Patients with typhoid fever frequently experience mild to severe enterocolitis, with symptoms such as nausea, vomiting, anorexia, and mild to severe diarrhoea, with or without blood. In addition, according to the available literature, these symptoms-of enterocolitis are more apparent with *Salmonella* ser. Typhi infection than with other salmonella species.⁴ However, none of those classic symptoms of typhoid fever were present in our patient with this massive splenic abscess produced by *Salmonella* ser. Typhi, implying that individuals with typhoid fever presenting only with a splenic abscess is an uncommon but possible scenario.

This unusual presentation of typhoid fever may result in a low suspicion of *Salmonella* ser. Typhi infection as the cause of the abscess, even after a diagnosis of a splenic abscess has been made by the clinician.

Another key point is that the formation of a splenic abscess is considered to be commonly attributable to the presence of splenic tissue injury, patients having altered splenic architecture (eg:

splenic infarctions in vasculitis or sickle cell disease), infection spread from adjacent tissues, such as a perforated intestine, or in immunodeficient conditions such as AIDS, malignancies, end-stage renal disease and diabetes.^{1,5,6} However, none of these predisposing factors were present in our patient, even with this significantly large abscess.

As observed in previous case findings, typhoid splenic abscesses can be multiple/multilocular^{5,7} or unilocular and the unilocular abscesses are of varying sizes.^{8,9} This is one of the largest unilocular typhoid splenic abscesses reported in the accessible literature.

In conclusion, typhoid fever is a rare but reported cause of splenic abscess. It could occur even in patients with no apparent risk factors and individuals with typhoid fever presenting only with a splenic abscess, without the classic symptoms of typhoid fever is an uncommon but possible scenario. A positive clinical outcome would result from early diagnosis and treatment in these patients.

Take home message:

Patients with abscesses in atypical sites should always be managed by draining and appropriate cultures of pus which would lead to the correct diagnosis and prompt treatment.

Declarations

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Authors' contributions: All the authors have contributed to collecting information on patient history, laboratory test results and preparation of manuscript.

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