

Case Report

Typhoid splenic abscess : a rarity in the present era

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Abstract

Typhoid fever is a major public health problem in South East Asia and has multiple complications involving almost every major organ system of the body. Abscess of the spleen is an uncommon complication of typhoid fever in the present era due to effective use of antibiotics. It is often fatal if not recognized in time. The conventional treatment is surgical drainage of the abscess which is associated with significant morbidity. We present a case of splenic abscess due to *Salmonella enterica* serotype Typhi, in a previously healthy individual which was managed conservatively by percutaneous aspiration

Keywords : Splenic abscess, Typhoid fever, Percutaneous drainage

Introduction

Splenic abscess is an unusual complication of enteric fever in the post antibiotic era. The overall incidence of splenic abscesses varies from 0.14- 0.7% as per various studies.¹ Common causes of splenic abscess include bacterial infections, abdominal trauma, splenic infarctions, hemoglobinopathy and immune-compromised states such as HIV, organ transplants and neoplastic diseases.² The infective diseases where splenic abscess has been reported include pneumonia, bacillary dysentery, infective endocarditis, urogenital infections, and rarely tubercular, amoebic or fungal infections. Splenic abscess may also occur following contiguous spread from peri-nephric abscess, sub-phrenic and pancreatic abscesses.³⁻⁶

The majority of typhoid splenic abscesses are solitary, but multiple abscesses occur in a small number of patients.⁷ Best treatment options remain unclear. Percutaneous drainage may be appropriate in some patients, but may fail in inexperienced hands and splenectomy remains the standard therapy. In general, a solitary splenic abscess can be managed with antibiotics and percutaneous drainage. However, those with multiple abscesses or thick pus with septations and those not responding to percutaneous drainage require splenectomy to prevent mortality.⁸ A high

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index of suspicion is required as the classical triad of fever, left upper quadrant tenderness and splenomegaly occur only in 32-50% cases.²

We report a rare case of typhoid fever with splenic abscess in a young immune competent male who was successfully managed with antibiotics and repeated ultrasonography guided percutaneous pus drainage on three occasions .

Case report

A 20 year old male presented to a tertiary care hospital in New Delhi with continuous fever without chills and rigors and diarrhea of five days duration. He gave a history of vague left upper quadrant pain two days prior to presentation. On clinical examination, he was febrile (102 °F), had tachycardia (pulse rate 110/min) and left upper quadrant tenderness. Laboratory tests revealed bicytopenia (TLC:3700/uL; platelet count:90,000/ul), mild transaminase elevation (AST:159; ALT:154) with normal serum bilirubin. Screen for malaria and dengue were negative. Blood culture grew *Salmonella enterica* subsp *enterica* serotype Typhi.

Ultrasonography of abdomen showed multiple heteroechoic lesions in the spleen. Contrast enhanced computerized tomography of abdomen (Fig 1) showed multiple splenic space occupying lesions (largest measuring 7.0x5.8x 4.3cm) in the splenic parenchyma, predominantly subcapsular in location

Hemoglobin electrophoresis was normal. 2D echo showed normal valves and no vegetations. Screen for HIV was negative. He was started on intra venous ceftriaxone and 90 ml purulent aspirate was obtained on drainage of the abscess under ultrasonography (US) guidance. The pus culture was sterile. After 5 days, the antibiotics were changed to piperacillin-tazobactam and amikacin as he continued to be febrile. Whole body positron emission tomography scan showed a hypodense, hypometabolic cystic lesion measuring 7.8 x 6.0 x 7.4 cm in the superior pole of spleen (Fig 2) with two small lesions below the abscess. There was no other area of flourodeoxyglucose (FDG) avid uptake noted. In view of persistent fever and large residual abscess despite antibiotics and US guided percutaneous drainage, the option of splenectomy was considered and discussed with the relatives. In view of his age and long term consequences of splenectomy, it was decided to adopt a spleen conserving approach and repeated



Fig 1 : CECT abdomen showing a splenic abscess measuring 7.0x5.8x 4.3 cm in the superior pole of spleen

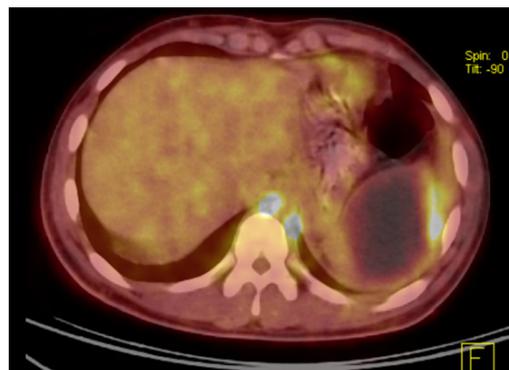


Fig 2 : FDG whole body PET scan showing a hypodense, hypometabolic lesion measuring 7.8 x 6.0 x 7.4 cm in superior pole of spleen.

US guided aspirations were done on two occasions draining 120 ml and 150 ml pus on successive days. He developed a small left sided pleural effusion which resolved with treatment. The patient responded well to antibiotics and US guided percutaneous drainage and was discharged in a stable condition after three weeks. On subsequent follow up he remained asymptomatic and the US abdomen has shown no residual abscess after 3 months.

Discussion

Splenic abscess is a rare disease and is often fatal if untreated. The incidence of splenic abscess is increasing in recent times due a large number immune compromised patients and improved detection due to widespread use of sophisticated imaging modalities in diagnostic work up of patients with pyrexia of unknown origin.

Atypical manifestations of typhoid fever are being reported more often now than earlier and can occur even during the early phase of disease.⁶ The manifestations can be intestinal or extraintestinal with the hepato-biliary system and the spleen being among the frequent sites of abdominal salmonellosis.⁹ The incidence of splenic abscesses in typhoid fever decreased from 2% in the preantibiotic era to less than 1% post introduction of effective antibiotics.¹⁰ Sickle cell disease, IV drug abuse, subacute bacterial endocarditis, diabetes mellitus and immunodeficiency are common predisposing factors.¹¹ In a series of 16 patients of splenic abscesses reported by Giovanna Ferraioli et al (2008), none of the cases were associated with typhoid fever and the most common cause was due to other bacterial pathogens.¹² The severity of the infection does not appear to play a role. In up to 20% of patients with typhoidal splenic abscess, the pus is sterile while *S. Typhi* is isolated from blood culture in 40-50% of cases. The diagnosis in endemic regions therefore rests upon a high index of suspicion in individuals presenting with fever, vague left upper quadrant pain and probably a palpable mass with supporting imaging evidence of a splenic space occupying lesion with positive blood cultures.¹¹ There have been case reports of splenic abscesses due to *S. Paratyphi A* but they are less common as compared to *S. Typhi*.¹³ In the past, antibiotic therapy and splenectomy were the only available treatments, both of which were associated with significant mortality.¹⁴ However, current therapeutic strategies in cases of trauma and benign splenic lesions have established spleen-preserving treatment. Thus, percutaneous drainage of splenic abscesses is being used instead of splenectomy with good results. The advantages of percutaneous drainage are a lesser risk of intra-abdominal spillage, avoidance of perioperative complications and better acceptance by the patient.¹⁵

Conclusions

Splenic abscesses are rare and these complicating typhoid are even rarer. These atypical manifestations can occur early and a high index of suspicion is required for diagnosis which can be confirmed by imaging. Treatment includes antibiotics as per sensitivity pattern of the causative agent. Splenectomy remains the mainstay of treatment in seriously ill patients, those with multiple abscesses or those not responding to medical therapy. Percutaneous drainage can be used with good results as was done in our case and should be attempted in a sub group of hemodynamically stable patients to conserve an important organ.

Conflicts of interest

All authors have nil to declare.

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