

HEPATIC ABSCESS- AN UNUSUAL PRESENTATION OF S.typhi

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ABSTRACT

Liver abscess due to S.typhi is an extremely rare occurrence and is associated with high mortality. We describe a 40-year-old female patient with PUO in whom ultrasound revealed a liver abscess and culture of ultrasound guided liver aspirate yielded S.typhi. The Widal test was positive with very high titers. No pre-existing liver pathology could be found. Ciprofloxacin therapy resulted in complete recovery. We report the clinical, radiological and microbiological features of this rare condition.

Key words: Liver abscess, S.typhi

INTRODUCTION

Liver abscess in the tropics are caused predominantly by *Entamoeba histolytica*^{1,3}. Salmonellae cause focal pyogenic infection and there are reports involving the skin, parotid, thyroid, breast and inguinal lymph node². Liver abscess due to S.typhi is a rare occurrence^{3,4}. There have been only few reported cases of Salmonella hepatic abscess and is associated with preexisting liver pathology^{4,5,6}. Recent reports have documented isolation of S.typhi from breast abscess^{7,9} lumbar spine⁸ and liver abscess. No predisposing cause could be found in our case. This report presents a case of liver abscess due to S.typhi.

CASE REPORT

A 40-year-old Bengali female was admitted with the history of low-grade fever of 3 months duration. She also complained of decreased appetite and loss of weight. She had

been treated with various antibiotics elsewhere and was referred to our hospital .She had no history of diarrhea in the past.

On examination, the patient was non-toxic and anicteric; vital signs were normal except for body temperature of 38.9C. The abdomen showed a tender hepatomegaly extending 3.5cm below the right costal margin. There was no rebound tenderness or guarding. Rest of the systemic examination was normal.

Laboratory data showed hemoglobin of 9.6gm/dl; white cell count 14.6 x10⁹/L; Polymorphs 74%, lymphocytes 24%, and eosinophils 2%. The sedimentation rate was 100mm at 1 hour and 39mm at 30minutes. The blood urea was 13mg/dl and serum creatinine 0.8mg/dl. Liver function tests revealed total bilirubin of 0.4mg/dl; SGOT 26U/lt; SGPT 24U/lt and alkaline phosphatase 153U/lt. Widal test showed a titer of 1: 160 for both Salmonella typhi O and Salmonella typhi H.

Ultrasound abdomen revealed a solitary cyst with thin septations in the right lobe of the liver. A differential diagnosis of Hydatid cyst was made based on USG report. The patient was commenced on metronidazole (800mg three times a day).

CT scan abdomen and pelvis revealed a large well-encapsulated thick walled cystic lesion with fluid in the right lobe of the liver. USG guided aspirate was sent for microbiological examination.

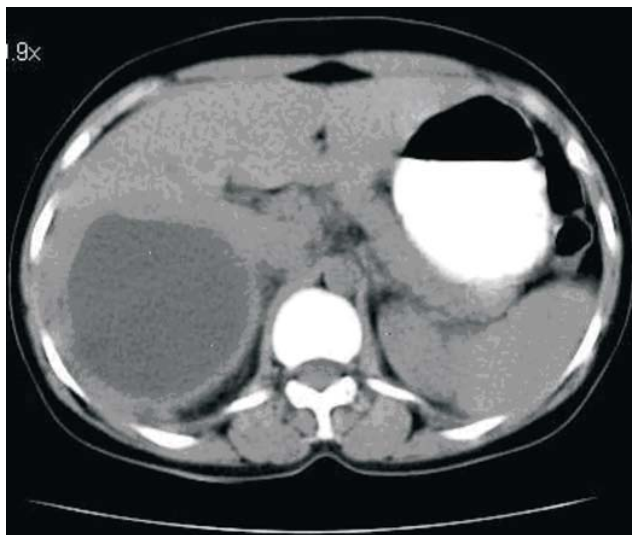
Stool examination was negative for cysts of *E.histolytica*.

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The abscess aspirate on direct examination revealed numerous pus cells but no bacteria. Culture yielded moderate growth of *Salmonella typhi*. The biochemical tests and agglutination with high titer sera confirmed the isolate as *S.typhi* and it was sensitive to amikacin, chloramphenicol, cefotaxime, ciprofloxacin, cotrimaxazole and Resistant to nalidixic acid. The MIC of ciprofloxacin was found to be 0.25g/ml. Therapy with metronidazole was changed to Intravenous ciprofloxacin. The bacterium was not isolated from blood, urine or stool submitted for culture. On day 14, the patient was better but still with fever. Repeat ultrasound showed residual lesion with hyperechoic content, septations and air pockets in the right lobe of the liver. The antibiotic was continued for 2 more weeks and on day 28 the patient became afebrile and was discharged. On follow up, three months after the diagnosis, she did not present complaints and a CT scan of the liver was normal.



Abdominal CT showing an abscess cavity (11x8 cm) in the right lobe of the liver.

DISCUSSION:

Salmonellosis continues to be a major public health problem^{4, 5}. A pyogenic liver

abscess secondary to *Salmonella* is infrequent and most of the textbooks do not mention *Salmonella* as one of the pathogens of liver abscess⁴.

The genus *Salmonella* contains more than 2000 serotypes^{1,4} and each serotype has the potential to cause one of the four major clinical syndromes-bacteremia, enteric fever, gastroenteritis and carrier state. The salmonella serotypes encountered are *S.typhi*, *S.typhimurium*, *S.enteritidis* and *S.paratyphiA*^{2,9}.

Bacteraemia and gastroenteritis are the most common manifestations of Salmonellosis^{5,6}. Cholecystitis is the most frequent intraabdominal manifestation of Salmonellosis and occurs in 3% of patients with typhoid fever⁶. The liver abscess due to *Salmonella* is predisposed by anatomic anomalies or diseases like amebic abscess, echinococcal cysts or hepatocellular carcinoma³⁻⁶. No predisposing cause could be found in our patient. Usually it occurs as a solitary abscess and located in the right lobe of the liver^{4,5}.

The clinical and laboratory findings of *Salmonella* liver abscess are similar to those of other bacterial abscess. Ultra sonogram and CT scan are highly sensitive in the diagnosis of liver abscess and can be used to guide needle aspiration for etiological, diagnostic and therapeutic intervention^{4,5}. However diagnostic aspiration is not indicated if an amoebic abscess is suspected on clinical grounds.

To conclude, *S.typhi* liver abscess is very rare and should be included in the differential diagnosis of liver abscess, especially in endemic areas and can present as fever of unknown origin. The early diagnosis combined with appropriate antibiotic therapy determines the good outcome but however survival is higher in patients with cholecystitis (100%) than in liver abscess (70%)⁶.

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