



ENTERIC FEVER AND SOLITARY HEPATIC ABSCESS: PERTINENT ROLE OF ULTRASONOGRAPHY.

Medicine

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ABSTRACT

Salmonella enterica serotype Typhi (*S. typhi*) is the causative agent of typhoid fever, an acute systemic infection that is common in developing countries, associated with low socioeconomic levels and poor sanitary conditions.¹ Since the advent of antibiotics, *S. typhi* infection and its hepatic complications have become increasingly rare.²

We present a 3 year old boy with hepatic pyogenic abscess diagnosed and monitored by ultrasonography (USG). Male child presented with high grade fever and abdominal pain since 21 days and ultrasonography revealed liver abscess (5.4*3.9*4.5cm) with cholecystitis. Examination showed sick looking child with pallor and grade II PEM. Enlarged liver (span of 8 cm) with guarding and no gall bladder swelling was noted. Cardiac examination was normal and abdominal girth was maintained. USG abdomen revealed hypoechoic lesion with shaggy margins in the right lobe of the liver (3.5*2.8*3.1cm). Widal titres were positive and haemogram showed leucocytosis. Child was initiated on parenteral cefoperazone and metronidazole for 3 weeks and showed improvement on repeat USG at the end of 3 weeks.

KEYWORDS

Salmonella Typhi, Pyogenic, Liver abscess

1. INTRODUCTION:

Pyogenic hepatic abscesses are uncommon conditions that present diagnostic and therapeutic challenges to physicians. If left untreated, these lesions are invariably fatal. *Salmonella enterica* serotype Typhi (*S. typhi*) is the causative agent of typhoid fever, an acute systemic infection that is common in developing countries, associated with low socioeconomic levels and poor sanitary conditions.¹ The estimate of global burden of typhoid fever is 21,650,974 illnesses and 216,510 deaths annually.² Pyogenic bacteria can gain access to the liver through direct extension from contiguous organs or via the portal vein or hepatic artery. Hepatic clearance of bacteria via the portal system appears to be a normal phenomenon in healthy individuals; however, organism proliferation, tissue invasion, and abscess formation can occur with biliary obstruction, poor perfusion, or micro-embolization. USG is the imaging of first choice. It is quick, safe, cheap, and accurate in picking a liver lesion. We present a case of a 3 year old boy with hepatic pyogenic abscess diagnosed and monitored by ultrasonography (USG).

2. CASE REPORT

A 3 year old male child presented with complains of high grade fever since 27 days and abdominal pain since 21 days. Pain was insidious in onset, progressive, in the right hypochondriac region with no radiation and associated with vomiting. Fever was high grade associated with chills. Before presenting at our hospital, fever was diagnosed secondary to enteric fever and patient had received injectable ceftriaxone and amikacin for 5 days. History of weight loss was there (lost 3 kg's in two months). There was no history of altered bowel habits, yellowish discoloration of skin, hematemesis or malaena. There was no history of passing worms in stool. Neither was there any history of Koch's or Koch's contact. Child had been immunized till 1 and half year of age. He was a second order child and had no significant family history. Birth and developmental history was normal.

On examination, child was sick looking, pale, and had tachycardia with grade II protein energy malnutrition. Systemic examination revealed tender hepatomegaly, palpable 3 cm below the costal margin with span of 8 cm associated with guarding. Abdominal girth was maintained. Cardiac and respiratory system examination was normal.

Haemoglobin was 10.2, total leucocyte counts was 32,300/cmm with neutrophils - 83%, lymphocytes - 14% and eosinophils being 3 %. WIDAL titres were positive with O and H titres being 1:320, each. Liver function tests and stool routine was normal. A USG - abdomen revealed a solitary hypo-echoic lesion with shaggy margins measuring 5.4*3.9*4.5 cm along with cholecystitis.

We started the patient on injectable antibiotics (cefoperazone + metronidazole) and continued them for 3 weeks. Patient responded clinically with relief in signs and symptoms. A repeat USG - abdomen was done one week after the last dose of antibiotic and showed a regression in the size of the lesion (3.5*2.8*3.1cm).

3. DISCUSSION:

Serial ultrasonography would be essential for diagnosis and monitoring of hepatic abscesses and cholecystitis. Appropriate 21 days parenteral antibiotic therapy would be mandatory. An evidence of cholecystitis would warrant oral administration of ampicillin for 10 days to abolish the carrier states.

This child presented with a solitary hepatic abscess and enteric fever, responded to intravenous antibiotics with a reduction in the size of abscess and cholecystitis.

Detailed history taking, focussed clinical examination and serial ultrasonography (on admission and completion of therapy) with the gall bladder status is recommended in a child with enteric fever. USG is a simple cost effective diagnostic tool for fluid filled lesions in the liver.

USG is the imaging of first choice. It is quick, safe, cheap, and accurate in picking a liver lesion. Appearances of an abscess may be a rounded or an oval lesion which is usually hypoechoic but may have heterogenous echotexture. A solid or heterogenous lesion often evolves into a hypoechoic lesion on subsequent examination.⁴ Majority of the abscess have a well defined wall which may be thin or irregular.

Of all imaging modalities, USG is best for follow up, although it is not routinely necessary. The abscess cavity takes many months to finally resolve and lags behind clinical resolution by months.^{5,6}

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