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Case Report

Microbiology Section

A Splenic Abscess which was Caused by *Salmonella Typhi* in a Non Sickler Patient: A Rare Case Finding

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ABSTRACT

A splenic abscess which is caused by *Salmonella typhi* is a very rare complication of typhoid fever. We are reporting a case of a 14 year old female who presented with fever and pain in the abdomen. She was treated for fever of unknown origin in a rural hospital and was then admitted to our hospital after 15 days . She complained of fever and pain in the abdomen. On ultrasound, multiple splenic abscesses were seen. A USG guided aspiration was done and the aspirated material was received for culture, which was found to be positive for *Salmonella typhi*. A blood and stool culture which were done were negative and the Widal test showed a positive result with titres of TO 1:320 and TH 1:320.

No predisposing factor was found in our case. Sickling was negative and HIV and HBsAg screening showed negative results. She responded favourably to the antibiotics which were given as per our antibiotic sensitivity report.

Key Words: Splenic abscess, Typhoid fever, *Salmonella typhi*

INTRODUCTION

Splenic abscesses which are caused by *Salmonella typhi* have been found to be a very rare complication of typhoid fever since use of the specific antibiotics began. It is a potentially fatal complication of typhoid fever in the developing countries [1]. The incidence of a splenic abscess in typhoid fever has been reported to be between 0.29-2% [2]. In these patients, predisposing factors like haemoglobinopathies are usually present [3]. We are reporting a case of a splenic abscess which was caused by *Salmonella typhi* in a previously healthy young female.

A CASE REPORT

A 14 years old female was admitted to our hospital with a history of fever with chills and pain in the abdomen on the left side, which radiated to the back and the left shoulder. On examination, it was found that there was tenderness on the left hypochondrium, with no distention. Her haematology profile was haemoglobin 8.6, TLC 11000 and DLC: N 68, L 29, E 02 and M 01.

Ultrasonography showed a splenic size of 9.2cms, with non-communicating multiple splenic abscesses. An ultrasonography guided aspiration was done and the aspirated material was sent for bacteriological culture. The sample was processed as per the standard protocols [4], which yielded non lactose fermenting colonies with typical biochemical reactions, motility and gram reactions. A further identification was done by agglutination with the O antiserum and the anti-d serum and the organism was confirmed as *Salmonella typhi*.

Retrospectively, a blood culture, the Widal test and a stool culture were done. The blood and the stool cultures were negative. This may be due to the reason that the patient was treated for fever of unknown origin in a rural hospital before her admission at our hospital. The Widal test showed a positive result with titres of TO 1:320 and TH 1:320.

The isolate was sensitive to cefotaxime, ciprofloxacin, ceftazidime, ceftriaxone+sulbactum, gentamycin, levofloxacin and cefepime. The patient was initially started with metronidazole and amoxycillin +clavulanic acid. Then, she was switched over to the injectables gentamycin and ceftriaxone+sulbactum. She responded favourably, with regression of the lesion.

No predisposing factor was found in our case. Sickling was negative and the HIV and the HBsAg screening tests were negative.

DISCUSSION

The hepatobiliary system and the spleen are the frequent sites of the extraintestinal *Salmonella* abdominal infections [1]. A low incidence of splenic abscess is related to the phagocytic activity of the reticuloendothelial system and the leucocytes [5]. From 1940 to 1976, there was no report in the literature on such cases. However, about 34 cases of splenic abscess as a complication of typhoid fever were reported in the recent years [6]. But only very few of them had multiple splenic abscesses. In India, R Chaudhari et al., Kirti M Naranje et al., and Sandeepkumar Kanwal et al., reported typhoid fever with multiple splenic abscesses [7,8,9]. The abscess which is caused by *Salmonella* tends to be associated with sickle cell disease, IV drug abusers, an impaired host resistance, subacute bacterial endocarditis, trauma , diabetes mellitus, urinary tract infections, skin sepsis, respiratory tract infections and immunodeficiency. It also has a poor diagnosis [10,11]. All these predisposing factors were not found in our case.

A high degree of clinical awareness is necessary for an early diagnosis of a splenic abscess. The classic findings of fever, chills, tenderness in the left upper quadrant and splenomegaly had occurred in only one half of the patients in one series [3] and in 32% of the cases in another series [12]. A splenic involvement occurs early in the course of the disease and it is present by the beginning of the second week [1].

The diagnosticians should be reminded, that while there are several emerging new infections, we should not miss the newer presentations of the older diseases. A proper microbiological evaluation of the properly obtained specimens is mandatory in such unusual pyogenic infections .

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