

Original Research Article

## **Spectrum of Clinical Profile and Management of Typhoid Fever in a Rural Tertiary Care Teaching Hospital**

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**Abstract:** Enteric fever is a systemic illness and can be fatal, owing to a major public health problem in India due to poor sanitation. Patients present with varied symptoms and can pose a diagnostic challenge. Diagnosis most often done either by clinical impression or a serological test and confirmed by blood culture. The study is a prospective study carried out during the period of 1 years from January 2009 to January 2010 in the department of Medicine, Sri Devaraj Urs Medical College, R.L. Jalappa teaching Hospital Kolar. A total of 71 patients aged from 13 years to above 50 years were included in the study as shown in table- 1. There were 62 (87.32%) males and 9 (12.68%) females with male:female ratio of 7:1, None of the patients included in the study were vaccinated for typhoid in the past. Majority of the patients presented with abdominal pain 71(100 %), distension of abdomen 69(97.18 %), vomiting 50 (70.42%) fever 40 (70.42 %) constipation 10 (14.08 %) table-2. Widal test was positive in 65 (91.5 %). other investigations done was USG abdomen & pelvis which showed hepatomegaly 25(35.21% ) and splenomegaly 20(28.1% ), hepatosplenomegaly 15(21-1%) ,free fluid 8(11.26%) , Leucocytosis ( $>11 \times 10^9 / L$ ) was present in 40(56.33%). There was no mortality in our study. Most of the patients responded to treatment with cephalosporin (84.5%) while 11(15.5%) received a combination of cephalosporins and quinolones. Complications of typhoid fever were seen in 14.08% of patients in the form of ileal perforation. Typhoid fever is a serious public health problem in developing countries and in areas where low socioeconomic status, poor sanitation and poor personal hygiene prevail. Therefore public health awareness regarding safe drinking water, proper sanitation, and hygiene, appropriate antibiotic administration and vaccination are the most useful tools to prevent typhoid fever and its complications.

**Keywords:** typhoid fever, clinical profile, treatment outcome.

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**INTRODUCTION**

Typhoid fever is caused by a Gram negative organism *Salmonella typhi*. Water-borne infections due to poor sanitation and direct feco-oral transmission owing to poor personal hygiene are most common mode of spread. India being an endemic region for typhoid, the clinical manifestations are varied and may pose difficulty in diagnosis. Hence this study was conducted to evaluate the clinical presentations, complications, and treatment outcome of enteric fever.

**MATERIALS AND METHODS:**

The study is a prospective study carried out during the period of 1 year from January 2009 to January 2010 in the department of Medicine, Sri Devaraj Urs Medical College, R.L. Jalappa teaching Hospital, Kolar. A total of 71 patients admitted in

the medical wards and diagnosed with typhoid fever and confirmed either by serological test or blood culture positive were included in the study. Patients below twelve years of age were excluded. The ethical committee approved the study. A written / informed consent was obtained from each patient before enrolling them in the study. The data was collected on a proforma that included demographic area, clinical features, lab investigations, x-rays, ultrasound of abdomen & pelvis, duration of hospital stay, complications and mortality.

**OBJECTIVE:**

To evaluate the clinical presentations, complications, and treatment outcome of patients with enteric fever. Appropriate statistical analysis was done using SPSS software.

**RESULT:**

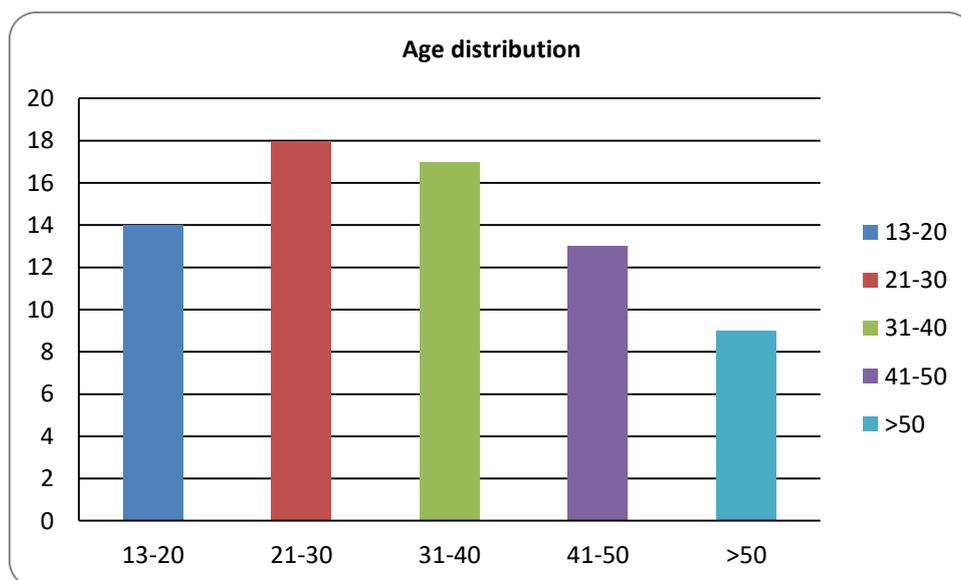
A total of 71 patients aged from 13 years to above 50 years were included in the study as shown in (table- 1,fig-1). There were 62( 87.32%) males and 9 (12.68%) females with male: female ratio of 7:1, None of the patients included in the study were vaccinated for typhoid in the past. Majority of the patients presented with abdominal pain 71(100 %), distension of abdomen 69(97.18 %), vomiting 50 (70.42%) fever 40 (70.42 %) constipation 10 (14.08 %) (table-2, fig-2). Widal test was positive in 65 (91.5%). other investigations done was USG

abdomen & pelvis which showed hepatomegaly 25(35.25%) and splenomegaly 20(28.1%), hepatosplenomegaly 15(21.12%) ,free fluid 8(11.26%) , Leucocytosis ( $>11 \times 10^9 / L$ ) was present in 40(56.33%). There was no mortality in our study. Most of the patients responded to treatment with cephalosporin (84.5%) as per the protocol while 11(15.5%) received a combination of cephalosporins and quinolones. Pain abdomen subsided within 3-4 days of treatment. The average duration of hospital stay was seven days.

**Table-1: Showing Age Distribution**

SI No	Age distribution	No of Patients	Percentage %
1.	13 – 20 years	14	19.71
2.	21 – 30 years	18	25.35
3.	31 – 40 years	17	23.94
4.	41 – 50 years	13	18.30
5.	> 50 years	9	12.67
	Total	71	

$X^2=3.577$  p=0.466 NSS



**Fig -1: Bar Graph Showing Age Distribution.**

**Table-2: Showing Clinical Presentation**

SI No	Clinical features	No of patients	Percentage %
1.	Abdominal pain	71	100
2.	Fever	50	70.42
3.	Abdominal Distension	69	97.18
4.	Vomiting	50	70.42
5.	Constipation	10	14.08
6.	Dehydration	60	84.50
7.	Shock	10	14.08
8.	Anaemia	6	8.45
9.	Tenderness	71	100

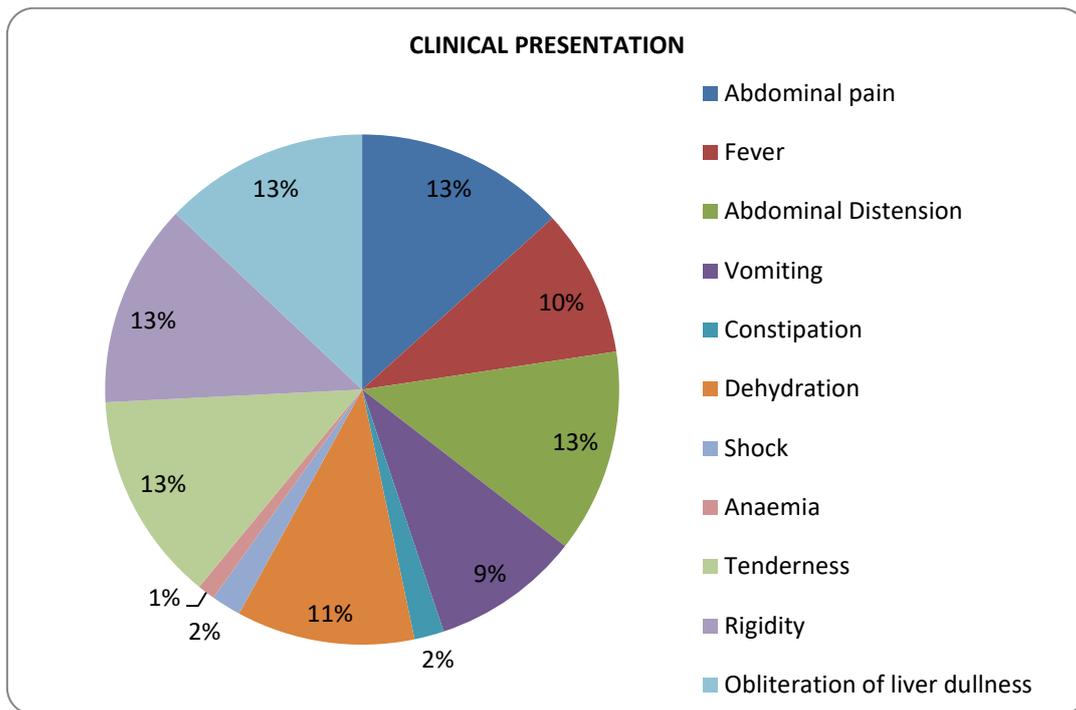


Fig-2: Pie diagram showing clinical presentation.

**DISCUSSION:**

Typhoid fever is a serious public health problem in developing countries and in areas where low socioeconomic levels and unsanitary environmental conditions prevail. Lack of clean drinking water, poor sanitation and lack of medical facilities in rural areas and delay in hospitalization could be contributing factors[1,2,3]. Atypical clinical manifestations are seen in recent days which could perhaps be due to the irrational treatment by the local practitioners due to indiscriminate use of antimicrobials which can cause antibiotic resistance in our country. In our study majority of the patients presented with pain abdomen and the incidence of enteric fever was highest in mean age group ranging from 21 to 40 years, which is similar to other previous studies[4,5,8]. and male preponderance was noticed which was consistent with other studies[8,9]. Atypical manifestations of both uncomplicated and complicated typhoid fever are encountered causing difficulty in diagnosis. Fever is the most common feature in cases of typhoid fever. During the course of typhoid fever, the bacteria localize in the ileum producing edema of Peyer’s patches leading to focal necrosis and ulceration. Gall bladder involvement is also noted. Although abdominal pain is an unusual feature of typhoid fever, in our study, there was an insignificant history of pain abdomen in 71(100%) of the patients followed by fever and other classical symptoms and signs. This could have been due to the patients being treated outside by the practitioners as ours is a rural population. In a study of profile of 136

culture-proven typhoid fever cases, it was found that abdominal pain was present in 21% cases[9]. Diagnosis on classical symptoms and signs along with laboratory tests are the usual modalities. The confirmatory blood culture report can vary due to prior antibiotics therapy. In this study also blood culture was negative owing to the same reason. Widal test is commonly used for the diagnosis, in our study 65( 91.54%) were positive. Leukocytosis was found in this study attributing to the severity of the typhoid infection. Ultrasound of the abdomen is an useful investigation to diagnose associated GI abnormalities such as hepatosplenomegaly, acute acalculous cholecystitis, gallbladder wall thickening, thickening of the intestinal wall, inter- loop fluid, mesenteric lymphadenitis, and ascites. Various surgical complications like intestinal perforation and upper GI bleed are known to occur in the second or third week of illness. In our study also we noticed, the presentation was with abdominal pain mimicking as an acute abdomen. However, all the patients responded well to parenteral Ceftriaxone and a few with a combination of Ceftriaxone and Quinolones. Pain abdomen subsided within 3-4 days post therapy. There were no life threatening complications in this study. Health education about improved sanitation and hygiene can go a long way in the prevention of typhoid fever, so also does Vaccination providing protection against the preventable disease.

**CONCLUSION:**

- Health education about improved sanitation and hygiene can go a long way in the prevention of typhoid fever so also does Vaccination providing protection against the preventable disease.
- Atypical presentations are seen in typhoid fever patients so we need to be cautious about it.

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