

## Clinical Profile of Typhoid Fever in Children

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Conflict of interest: Nil

### Abstract:

**Background:** Unusual presentations lead to diagnostic dilemma and may delay the diagnosis of typhoid fever. The present study describes the clinical presentation of enteric fever at a tertiary care centre.

**Methods:** The study was a hospital based prospective observational study. The parents of the children were informed about the research and its objectives, and written informed consent was obtained from them. Children of age 2 -18 years who presented with fever of 5 days or more with clinical signs and symptoms suggestive of typhoid fever and positive Widal test or Typhidot tests were included in the study. The demographic and clinical features of the patients were described.

**Results:** All the children presented with fever as the main complaint (100%). Loss of appetite and headache were the next common complaints reported by 61.00% cases. Commonest sign noticed was toxic look (83%) followed by coated tongue (76%) and splenomegaly (61%). Hepatomegaly was also noted in 34% of cases.

**Conclusion:** This study was undertaken to observe the clinical profile of typhoid fever in children admitted in a tertiary care hospital. Typhoid fever remains to be as an endemic disease in this locality. All the signs and symptoms of the disease are nonspecific common with other acute febrile illnesses; a definitive diagnosis of the disease is required for treatment and to prevent transmission.

**Keywords:** Enteric Fever, Splenomegaly, Toxic Look.

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### Introduction

Typhoid fever is a life-threatening disease occurring more frequently in underdeveloped areas of the world and it continues to pose a major public health problem. There are around 16 million new enteric fever cases reported globally.[1] The annual incidence of enteric fever has been reported as more than 13 million cases in Asia alone and it causes annual deaths of more than 0.6 million across the world.[2] The incidence of Typhoid fever in India is 2.14 per thousand populations.[3] The incidence of typhoid fever in the younger age group is also on the increase and the disease which was reported to be very rare below the age of three years is not correct and now there is documented evidence that enteric fever will not spare any age.[4] In endemic areas such as India, traditional signs and symptoms in enteric fever are not often observed. Unusual presentations lead to diagnostic dilemma and may delay the diagnosis of typhoid fever [5-7]. The present study describes the clinical presentation of enteric fever at a tertiary care centre in Rajasthan.

### Methods

The study was a hospital based prospective observational study. The parents of the children were informed about the research and its objectives, and written informed consent was obtained from them.

Children of age 2 -18 years who presented with fever of 5 days or more with clinical signs and symptoms suggestive of typhoid fever and positive Widal test or Typhidot tests were included in the study.

The demographic and clinical features of the patients were described. All children were enquired about a careful history including family history of similar illness and socio-economic status, source of drinking water.

Children who have been diagnosed as paratyphoid fever by serology like Widal test were clearly excluded from the study. Total leukocyte count was done in all patients.

### Results

**Table 1: Symptoms at the time of admission to hospital**

Symptoms	Number of patients	Percentage
Fever	100	100.00
Anorexia	61	61.00
Vomiting	34	34.00
Diarrohea	14	14.00
Abdominal pain	32	32.00
Constipation	15	15.00
Headache	61	61.00
Cough	21	21.00

All the children presented with fever as the main complaint (100%). Loss of appetite and headache

were the next common complaints reported by 61.00% cases.

**Table 2: Signs at the time of admission to the hospital**

Sign	Number of patients	Percentage
Coated tongue	76	76.00
Anemia	36	36.00
Abdominal tenderness	26	26.00
Toxic look	83	83.00
Hepatomegaly	34	34.00
Splenomegaly	61	61.00
Respiratory infections	3	3.00

Commonest sign noticed was toxic look (83%) followed by coated tongue (76%) and splenomegaly

(61%). Hepatomegaly was also noted in 34% of cases.

**Table 3: Total leukocyte count**

TLC	Number of patients	Percentage
<4000	32	32.00
4000-11000	50	50.00
>11000	18	18.00

Only 32% of the children with typhoid had white cell count less than 4000/c.mm. Majority of the children (50%) had White blood cell counts within normal limits. 18% of the children had white blood cell counts of more than 11000/c.mm.

### Discussion

All present study subjects presented with fever as the main complaint (100%). Loss of appetite and headache were the next common complaints reported by 61% cases. This was followed by pain in abdomen (32%) & Vomiting was present in 34% cases whereas 14% of children complained of loose stools.

Study by Modi R reported that gastrointestinal complaints were second most common after fever with abdominal pain noticed in 57.14% patients and vomiting in 50% of the patients. [7]

Similar observations were reported by Comeau et al and Kapoor JP et al and Sinha et al. [6,9,10] However, Joshi et al reported that headache was the most common symptom after fever seen in 52.5% cases and abdominal pain and vomiting were the other common associated symptoms seen in 22.5% and 20% cases respectively. [11]

Commonest sign noticed was toxic look (83%) followed by coated tongue (76%) and splenomegaly (61%). Hepatomegaly was also noted in 34% of cases.

Devaranavadagi RA and Srinivasa S also reported Toxic look (68%) as the most common sign followed by coated tongue (49%), Hepatomegaly (44%), and other signs.[8] However, Laishram et al reported coated tongue (80%) as the most common sign followed by Hepatomegaly (76%) and splenomegaly (38%).[12]

In present study, 32% of the children with typhoid had white cell count less than 4000/c.mm. Majority of the children (50%) had White blood cell counts within normal limits. 18% of the children had white blood cell counts of more than 11000/c.mm.

In Devaranavadagi RA and Srinivasa S study, Leucocytopenia and Eosinopenia was found in 34% and 39% cases respectively.[8] However, Eosinopenia was seen in 72 % cases in study by Ganesh R et al. [13]

### Conclusion

This study was undertaken to observe the clinical profile of typhoid fever in children admitted in a

tertiary care hospital. Typhoid fever remains to be as an endemic disease in this locality. All the signs and symptoms of the disease are nonspecific common with other acute febrile illnesses; a definitive diagnosis of the disease is required for treatment and to prevent transmission.

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