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Original Research Article

A study on clinical profile of typhoid fever at Government General Hospital, Nizamabad, Telangana, India

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ABSTRACT

Background: The disease is most common in India. Children are most commonly affected. Typhoid fever, also known simply as typhoid, is a bacterial infection due to specific type of Salmonella that causes symptoms.
Methods: Prospective observational study, 100 children with fever more than 7 days attending pediatric departed at GGH, Nizamabad were included in this study.
Results: Total 100 children included in this study, male were 62, female were 38. More cases were (43) in 5-10 years age group, 53 children, belongs to middle class, 30 children belongs to lower class and 17 children belongs to upper class. Most common physical finding was toxic look (52), fallowed by coated tongue (41), hepatomegaly (32), pallor (12), spleenomegaly (11), hepatospleenomegaly (8).
Conclusions: Safe drinking water, hand washing, proper sanitation, health education to children and food handlers in schools and hostels will decrease the incidence of typhoid fever in children.

Keywords: Children, Clinical profile, Heamogram, Hepatomegaly, Typhoid fever, Spleenomegaly

INTRODUCTION

Typhoid fever, also known simply as typhoid, is a bacterial infection due to specific type of Salmonella that causes symptoms.[1] Symptoms may vary from mild to severe, and usually begin 6 to 30 days after exposure.[2] Often there is a gradual onset of a high fever over several days.[2] Other people may carry the bacterium without being affected; however, they are still able to spread the disease to others.[3] Typhoid fever is a type of enteric fever, along with paratyphoid fever.[1] The incidence of typhoid and paratyphoid varies geographically, with south-central and south-east Asia having the highest incidence typically exceeding 100 cases per 100,000 person-years for typhoid and with lower, variable rates for paratyphoid. In one multicenter study, the annual incidence of typhoid per 100,000 children aged 5-15 years was 180 in North Jakarta, Indonesia, 413 in Karachi, Pakistan and 494 in Kolkata, India.[4]

In the same settings, the annual incidence of paratyphoid was considerably lower, with the highest annual incidence reported from Pakistan of 72 per 100,000 children aged 2-16 years.[5] Typhoid is spread by eating or drinking food or water contaminated with the feces of an infected person.[3] Risk factors include poor sanitation and poor hygiene.[1] Those who travel in the developing world are also at risk. Only humans can be infected.[5] Symptoms are similar to those of many other infectious diseases. Diagnosis is by either culturing the bacteria or detecting their DNA in the blood, stool, or bone marrow.[6] Culturing the bacterium can be difficult.[7]

The disease is most common in India.[1] Children are most commonly affected. Rates of disease decreased in the developed world in the 1940s as a result of improved sanitation and use of antibiotics to treat the disease.[3]

The clinical presentation of typhoid varies widely from mild constitutional symptoms to severe complicated disease. Typhoid fever has wide range of manifestations in the pediatric age group, it can present as septicemia in neonates, as diarrhoea in infants, and as lower respiratory tract infections in older children.[6-8]

Typically, it manifests as step wise increasing, high grade fever, headache, lethargy, vomiting, abdominal pain, hepatosplenomegaly and rarely stupor. There is also significant difference in age distribution and population at risk. This is mainly a disease of school age children and young adults. The wide range of clinical symptoms especially in children often mimic other endemic infectious diseases, causing delays in diagnosis and treatment, in turn leading to severe complications including death.[9-11] Typhoid can involve multiple organs therefore resulting in diverse symptoms.[12] An atypical presentation of typhoid in older children includes liver abscess, splenic abscess, meningitis, ataxia, cholecystitis, chorea, palatal palsy, osteomyelitis, peritonitis, aphasia and even psychosis.[13] The aim and objective of this study was to study the clinical profile of typhoid fever in children.

METHODS

A Proforma was designed and pretested with pilot study at the Department of pediatrics, GGH, Nizamabad and the actual study was started after making necessary corrections.

Inclusion criteria

- Children age group 6 months to 18 years with fever more than 7 days.

Exclusio criteria

- Infection due to other source of infection like respiratory, nervous system, cardiac, genitourinary system.

A convenient sample of 100 children in the age group 6 months to 18 years who presented to the pediatric department with history of fever of more than 7 days duration were included in the study after taking the consent of parents. Its an Hospital based prospective observational study. Study Period was May 2017 to April 2018 (1 year). Study Variables like Age, Sex, Heamogram, SGOT, SGPT, Widal, Blood culture. Data collection by using pre-designed, pretested questionnaire. Data Analysis done by using MS office 2012. Epiinfo 2012. Statistical Test include Rates, Ratios, Proportions and Chi-square tests.

RESULTS

This study was conducted at children attending outpatient department of pediatrics, government general hospital, Nizamabad with fever more than 7 days. Total 100 children included in this study, out of 100, male were 62, female were 38. This shows male predominance as shown in table 1. As shown in table 2, more cases were (43) in 5-10 years age group, followed by 6-60 months age group (35) and above 10 years age group (22).

Table 1: Sex wise distribution of study population.

Sex	Number (n=100)
Male	62
Female	38

Table 2: Age and sex wise Distribution of study population.

Age group	Males	Females	Number (n=100)
6-60 Months	20	15	35
5-10 years	29	14	43
>10 years	13	9	22

Table 3: Socio economic status wise distribution of study population.

Social class	Number (n=100)
Upper class	17
Middle class	53
Lowe class	30

As shown in Table 3 more children 53, belongs to middle class, 30 children belong to lower class and 17 children belongs to upper class.

Table 4: Common presenting symptoms.

Symptom	Number (n=100)
Fever	100
Anorexia	61
Vomiting	52
Pain abdomen	18
Diarrhea	20
Headache	32
Cough	13

As shown in Table 4, in the present study all children(100) suffering with fever, 61 presented with anorexia, 52 came with vomiting, 32 having headache, 20 with diarrhea, 18 having pain abdomen, 13 with cough.

As shown in table 5, most common physical finding was toxic look (52), fallowed by coated tongue (41), hepatomegaly (32), pallor (12), spleenomegaly (11), hepatospleenomegaly (8).

Table 5: Physical findings.

Findings	Number (n=100)
Toxic look	52
Coated tongue	41
Hepatomegaly	32
Spleenomegaly	11
Hepatospleenomegaly	8
Pallor	12

Table 6: Laboratory parameters.

Laboratory finding		Number (n=100)
Hemoglobin (Anemia <11g %)		18
Total Leukocyte count	Leukocytosis (>11000 cells/mm^3)	17
	Leucopenia (<4000 cells/mm^3)	38
Platelets (thrombocytopenia)		16
Elevated SGOT (>200IU/ml)		16
Elevated SGPT (>200IU/ml)		19
WIDAL		100
Blood culture		23

In this study laboratory findings as shown in Table 6, widal test was positive in 90 cases, leucopenia in 38 cases, blood culture positive for 23 cases, elevated SGPT in 19, SGOT in 16, thrombocytopenia in 16 cases and leukocytosis was in 17 cases.

DISCUSSION

Typhoid fever is a major public health problem developing country like India. The present study aimed at understanding the clinical profile typhoid fever in children. In this study male predominance was seen these findings are similar with other studies.[14-16] In the present study maximum incidence was seen in 5-10 years age group this finding correlate with the study done by R Modi et al.[17] These results may be due to eating outside food and this age group is school age children.

High incidence of typhoid fever was seen in middle class, followed by lower class, least in higher class. Similar study conducted by Hyder R, Yasmeen B, Ahmed S et al, 18 in their study high incidence was seen in lower class. Lower , middle class there may be poor hygiene practice, poor hand washing practice and contaminated water drinking source.

A study done by Sinha A, Sazawal S, Kumar R, Sood S, Reddaiah VP et al, Kapoor JP, Mohan M, Talwar V, Daral TS, Bhargava SK. et al, also reported the most common symptoms were fever, anorexia, vomiting, pain abdomen, diarrhea, headache and cough.[19,20] In this study we reported fever 100%, anorexia 61, vomiting 52, headache, diarrhea , pain abdomen and cough.[13,18,20,32]

In the present study all cases were positive for widal, blood culture positive in, Other study conducted by Arora RK, Gupta A, Joshi NM, Kataria VK, Lall P, Anand AC.[23] 21 Blood culture positive in 16%. Banu A, Rahman MJ, Suza-ud-doula A 22 reported 28% culture positive cases.

CONCLUSION

Typhoid fever is one of the major public health problems in India. It is predominantly seen in school going children. Safe drinking water, hand washing, proper sanitation, health education to children and food handlers in schools and hostels will decrease the incidence of typhoid fever in children.

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