ORIGINAL RESEARCH

Assessment of profile of typhoid pediatric fever patients

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ABSTRACT

Background: Typhoid is a multi systemic bacterial illness caused by Salmonella species, subspecies enterica and serovar typhi. The present study was conducted to assess profile of typhoid pediatric fever patients.

Materials & Methods: 84 children with typhoid fever of both genders were included. A thorough clinical examination was carried out. Symptoms and antibiotic sensitivity pattern was recorded.

Results: Out of 84 patients, males were 54 and female were 30. Common clinical features were fever in 84, vomiting in 35, diarrhoea in 40, pain abdomen in 25 and headache In 31 patients. The difference was significant (P< 0.05). Sensitivity of ciprofloxacin was seen in 12, levofloxacin in 42, meropenam in 84 and ceftriaxone in 84 cases. The difference was significant (P< 0.05).

Conclusion: The most common clinical features were fever, vomiting, diarrhea etc. Maximum antibiotic sensitivity was seen for meropenam and ceftriaxone.

Key words: Typhoid, Children, antibiotic sensitivity pattern

INTRODUCTION

Typhoid is a multi systemic bacterial illness caused by Salmonella species, subspecies enterica and serovar typhi.[1] A milder form of the disease is caused by serovars paratyphi A, B and C. About 26.9 million typhoid cases and more than 2 lakh deaths occur each year, with majority of the cases reported in Asia. The incidence of typhoid varies substantially within Asia, with a very high incidence noted in India.[2]

Endemicity in developing countries is attributed to the low standard of living, poor hygiene practices, poor sanitation, contaminated water sources, and lack of universal vaccination. In children, the common age group affected is between five to 19 years, but in some endemic areas of Asia, it is also common in children less than two years.[3] Clinical manifestations are non-specific, which may delay the diagnosis and treatment leading to fatal complications. Presenting complaints vary from mild constitutional symptoms to severe complications involving multiple organs.[4] Clinical suspicion is pivotal for diagnosis. Common presentations are fever, vomiting, diarrhoea, abdominal pain, cough, headache, and lethargy. The gold standard for diagnosis is blood culture, but in 70% the culture is negative due to injudicious use of antibiotics before admission.[5] The present study was conducted to assess profile of typhoid pediatric fever patients.

MATERIALS & METHODS

The present study comprised of 84 children with typhoid fever of both genders. Parental consent was obtained before starting the study. Those patients showing widal test positive and supported clinical features were considered to classify the patients as typhoid.

Data such as name, age, gender etc. was recorded. A thorough clinical examination was carried out. Symptoms and antibiotic sensitivity pattern was recorded. Results were tabulated and assessed statistically. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 84		
Gender	**Male**	**Female**
Number	54	30

Table I shows that out of 84 patients, males were 54 and female were 30.

Table II Assessment of clinical features

Clinical features	Number	P value
Fever	84	0.05
Vomiting	35	
Diarrhoea	40	
Pain abdomen	25	
headache	31	

Table II, graph I shows that common clinical features were fever in 84, vomiting in 35, diarrhoea in 40, pain abdomen in 25 and headache In 31 patients. The difference was significant (P< 0.05).

Graph I Assessment of Clinical features

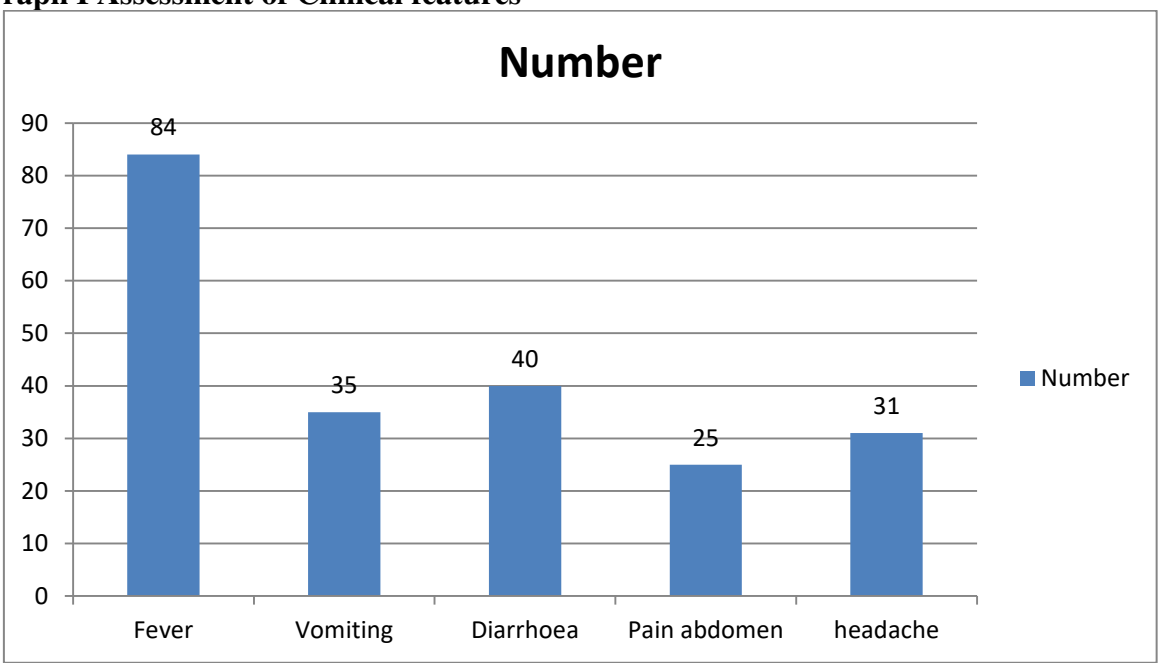

Table III Antibiotic sensitivity pattern

Drug	Sensitive	Resistant
Ciprofloxacin	12	72
Levofloxacin	42	40

Meropenam	84	0
Ceftriaxone	84	0
Nalidixic acid	0	84

Table III shows that sensitivity of ciprofloxacin was seen in 12, levofloxacin in 42, meropenam in 84 and ceftriaxone in 84 cases. The difference was significant (P< 0.05).

DISCUSSION

Enteric fever is a multi-systemic tropical infectious disease. Causative organisms are Salmonella enterica serotype Typhi (S. typhi) or Salmonella enterica serotype Paratyphi A, B, or C.[6] It is prevalent in most underdeveloped countries, with India having a high disease burden of 214.2 per 100,000 individuals per year.[7,8] Enteric fever in some patients can develop life threatening complications. It remains a public health concern and the incidence is highest in children with higher rates of hospitalization. Antimicrobial agents are the definitive therapy in order to prevent the complications associated with Enteric fever. Appropriate and timely antibiotic administration reduces the durations of fever from 3-4 weeks to 3-4 days.[9,10] The present study was conducted to assess profile of typhoid pediatric fever patients.

We found that out of 84 patients, males were 54 and female were 30. Behera et al[11] found that of 112 patients, 75% of children belonged to the six to 14 years age group with a mean age of 7.6 +/- 3.6 years and a male to female ratio of 1.66:1. The peak of cases was seen during the month of January to June with 94% of cases occurring in low and middle socioeconomic status. The commonest presentation was fever in 98.21%; other features were vomiting (39.29%), pain in abdomen (21.43%), diarrhoea (26.79%), and anorexia (14.29%). Eosinopenia was found in 58.93%, transaminitis in 30.36%, and raised CRP in 73.21%. In 30 children blood culture was positive with sensitivity to third-generation cephalosporin. All isolates were nalidixic acid-resistant *Salmonella* Typhi (NARST). Complications were seen in 21.42%. All recovered and two left against medical advice.

We observed that common clinical features were fever in 84, vomiting in 35, diarrhoea in 40, pain abdomen in 25 and headache In 31 patients. Jagadish et al[12] found that the majority of the of the patients were in the age group of 9-12 were 29.83%, followed by 6-9 were 24.86%; 3-6 were 20.99%, 1-3 were 13.81%, <1 were 10.50%. The majority of the males were i.e. 58.01% followed by 41.99% were females. The most common clinical features were fever - 100%, followed by vomiting in 85%, diarrhea in 78%, weakness in 65%, coated tongue in 59%, hepatomegaly in 48%; splenomegaly in 41%; rash on the skin in 30%.

We found that sensitivity of ciprofloxacin was seen in 12, levofloxacin in 42, meropenam in 84 and ceftriaxone in 84 cases. Rauniyar et al[13] found that among 7450 patients, 151 (2.03%) patients were diagnosed with enteric fever of which 85 (56.29%) were male and 66 (43.71%) were female. Common symptoms were fever 151 (100%), and abdominal pain 94 (62.25%). Azithromycin 54 (38.03%) was the most common antibiotic received before presenting to hospital and ceftriaxone 151 (100%) was prescribed to all the patients after admission. Two-third of the patients (96/151) was hospitalized for at least 6 days, with the longest hospital stay of 14 days and shortest of 3 days.

Kathmandu et al[14] reported coated tongue, relative bradycardia and splenomegaly as the commonest presentation. Ceftriaxone was empirically in all admitted patients. This may be because third generation cephalosporin are bactericidal drugs with increased activity against gram negative bacteria with lesser toxicity and greater safety and have fever clearance time averaging one week.

The limitation of the study is small sample size.

CONCLUSION

Authors found that the most common clinical features were fever, vomiting, diarrhea etc. Maximum antibiotic sensitivity was seen for meropenam and ceftriaxone.

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