Clinical Spectrum of Typhoid Fever in Children

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One of the most important health problem in Pakistan and other developing countries is Enteric Fever. As the definitive diagnosis of typhoid fever requires certain laboratory Tests, emphasis must be given to clinical diagnosis of typhoid fever especially in communities where laboratory services are not available, so that a rapid diagnosis can be made and appropriate treatment started on clinical grounds without waiting for laboratory investigations. A descriptive study was carried out on 80 patients admitted in Paeds ward Jinnah Hospital Lahore from June 2003 to June 2004 with strong suspicion of typhoid fever. These patients were either blood culture or widal test positive. Out of 80 admitted patients,29 were female and 51 were male. Maximum incidence was seen in children between 5-15 years of age. Fever was the most consistent feature in all patients which was mostly high grade and remittent. The important physical findings were coated tongue and hepatosplenomegaly.
Key Words; Clinical spectrum, Typhoid fever, Children.

Typhoid fever is a severe systemic disease[1]. Typhoid fever remains a substantial public health problem in developing countries[2]. It spreads by fecal oral route. Enteric fever is now endemic in Pakistan throughout the year[3], because all the factors required for its spread are frequently present i-e, poor sanitation, lack of safe drinking water, illiteracy and poverty[4]. An estimated 16-30 million cases of typhoid fever occur annually resulting in 600,000 deaths.

Children usually present with fever and gastrointestinal symptoms including abdominal pain, vomiting, diarrhoea and constipation. Physical signs include hepatosplenomegaly, coated tongue and tenderness. Common complications include intestinal perforation, G.I.T bleeding, typhoid hepatitis[6] and bone marrow depression. Significantly more isolation of salmonella typhi was made in the hot dry months of May and June.

The diagnosis and outcome of enteric fever are hampered by the lack of specificity of clinical signs and emerging drug resistance[7]. Typhoid fever was found to be a more severe illness in young infants with high rate of mortality[5].

Aims and objectives:
Main aim and objective of our study was to establish important clinical features on the basis of which rapid diagnosis and appropriate early treatment could be started without waiting for pending laboratory investigations and avoiding disease mortality.

Patients and methods:
This study was conducted in the department of paediatrics, Jinnah Hospital Lahore for a period of one year. A descriptive study was designed. Inclusion criteria was (i) patients up to 15 years of age of either sex (ii) febrile illness with strong suspicion of typhoid fever along with either widal or blood c/s positive.

All children admitted with strong suspicion of typhoid fever were evaluated according to a set protocol with detailed history, clinical examination including temperature, pulse, anemia, toxicity, coated tongue, hepatosplenomegaly and complications. A standard proforma was filled for every patient. Supportive investigations done included CBC, Widal test, Blood c/s and Typhidot test.

Results:
During period of one year, total 80 children were included in this study. Out of them 47(59%) were males and 33(41%) were females (Table1).Eight percent cases belonged to lower socioeconomic group. Seventeen (21%) cases were below 5years of age and 63(79%) were between 5-15 years of age (Table2).Ten (12%) children had fever for less than 7 days at the time of presentation while 45(56%) children had fever between 7-14 days and 25(31%) had duration of fever for more than 14 days(Table 3). Fever was the most common presentation (100%)in all the patient. Fifty eight (72%) cases had intermittent fever and 22(28%) cases had continuous fever. Sixty (75%) cases had abdominal pain, forty (50%) cases had vomiting and diarrhoea, ten (12%) cases had constipation. Coated tongue was an important physical finding in 59(74%) cases. Hepatomegaly was noted in 62(77%) children and splenomegaly in 55(68%) cases. Ten(13%) cases had typhoid hepatitis(Table 4).

Laboratory investigations showed leucopenia in 65(81%) cases, widal test was positive in 60(75%) cases and negative in 20(25%) cases, blood culture was positive in 15 cases with growth of salmonella typhi. Typhidot test was done in 18(22%) cases and out of them 12(66%) reports were positive.

Table 1: Sex distribution

Sex	No.	%age
Male	47	59
Female	33	41

Table 2: Age distribution

Age	n=	%age
<5 years	17	21
5-15 years	63	79

Table 3: Fever duration

Fever	n=	%age
<7 days	10	12
7-14 days	45	56
>14 days	25	31

Table 4: Clinical features

Clinical features	n=	%age
Fever	80	100
Abdominal pain	60	75
Vomiting, diarrhoea	40	50
Constipation	10	12
Coated tongue	59	74
Hepatomegaly	62	77
Splenomegaly	55	68
Hepatitis	10	13

Discussion:

Our study showed that most of the proven cases of typhoid fever had similar clinical presentation. Majority belonged to school age group and of lower socioeconomic group with poor hygiene and sanitation measures. In almost all of these cases, treatment for enteric fever was started on the very first day without waiting for laboratory investigations.

Typhoid fever was more common in males. Fever was the only consistent complaint in all patients accompanied by one or more of other symptoms. Common clinical features were fever, pain abdomen, vomiting and constipation. Most of the admitted cases had febrile illness of 7-14 days duration. Fever was high grade and intermittent in majority of cases[8,9]. Coated tongue and hepatomegaly were imported clinical findings specially in toxic patients. Blood culture was positive in 20% of cases showing previous use of antibiotics before coming to hospital. Widal was positive in 72% of cases and typhidot was found to be a very sensitive and specific test for diagonosis[10].

There was no significant difference in clinical features of typhoid fever due to resistant salmonella typhi[11]. Due to the paucity of laboratory facilities in developing countries, it is important to evaluate the importance of making a clinical diagnosis of typhoid fever[12]. The difficulty in diagnosing typhoid fever in childhood also stems from the considerable diversity in clinical features. In certain parts of the world, typhoid fever in childhood is associated with significant morbidity and mortality.

Conclusions:

From the above mention study it was concluded that if a school going child presents with intermittent, high grade fever of 7-14 days duration associated with toxicity, abdominal pain, nausea, constipation, coated tongue, heratomegaly or splenomegaly, we can have strong suspicion of typhoid fever. We should treat him as a case of enteric fever till investigations prove it or where laboratory facilities are not available. This early suspicion and treatment will be more beneficial in decreasing morbidity and mortality.

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