CHANGING PROFILE OF ENTERIC FEVER IN CHILDREN

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A total of 300 cases of PUO (Pyrexia of Unknown Origin) were admitted to the Paediatrics Unit of Women and Children Hospital, Abbottabad during one year (June 1994 - May, 1995). They were examined for their detailed clinical profile. About 2/3rd of them had fever as their presenting symptom. Other associated predominant features were dizziness-51 (30%), anorexia-48 (28%), loose motions-47 (27.6%), cough-38 (22.4%}), headache-25 (14.7%), coated tongue-21 2(12.4%.), & jaundice-5 (2.9%). 80%, patients were admitted when complications had developed, such as gastroenteritis-68 (40%), enteric encephalopathy-65 (38.2%), drug toxicity-30 (17.6%), peritonitis-25 (14.7%), cholecystitis-18 (10.6%), myocarditis-6 (3.5%), and ataxia-2 (1.2%).

In the first 9 months, response to chloramphenicol was very good but this changed to resistance and in the last 3 months most of the cases were resistant to chloramphenicol treatment.

INTRODUCTION

Typhoid Fever is a serious systemic infection characterized by intestinal colonization by *Salmonella typhae* strains leading to bacteremia and daily spiking fever[1]. The incidence of typhoid fever has decreased in developed countries [2] but is still high in developing countries. Though fever is a major presenting symptom but patient may develop headache, dizziness, anorexia and diarrhoea. Other symptoms include toxicity, pain abdomen, cough, pain in joints, and generalized aches and pains. Due to frequent use of antibiotics, the typical presentation of enteric fever is changing and the incidence of complications such as encephalopathy, myocarditis, pneumonia and gastrointestinal haemorrhage is becoming more frequent [3].

Outbreaks of multiple drug resistant typhoid fever have been reported by different authors [4'5'6] and now Quinolones are considered as treatment of choice.

We planned to study cases of enteric fever for their clinical presentation and their response to different drugs.

MATERIALS AND METHODS

A total number of 300 cases (aged 1-12 years) with PUO (Pyrexia of Unknown Origin) admitted to the Paediatrics Unit of Women & Children Hospital, Abbottabad, were included in the study. The details of history and GPE (General Physical Examination) including duration of fever, loss of appetite, intake of previous medicine, look of patient, coated tongue, pain in abdomen and other signs of complications were noted.

The following laboratory tests were performed in order to establish the diagnosis:

1. Blood- complete picture.
2. Widal Test (for rising titer).
3. Urine R/E.
4. Throat Swab examination (when necessary).
5. Blood culture (when necessary).
6. X-Ray Chest
7. LFTs & CSF examination
8. MT with STU.

For treatment the patients were divided into two groups of 85 each. The grouping w-as made keeping in mind the age, socioeconomic condition and previous history of drug intake. In Group-I the patients were given chloramphenicol for 5 days and those patients who did not respond were put on Tarivid on day 6. The other group of

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patients were given tablet Tarivid on day of admission and followed up for response.

RESULTS

Out of 300 PUO cases a total number of 170 cases (56.7%) were diagnosed as Typhoid Fever. Other fevers included RTI, Malaria, Shigellosis, UTI and Tuberculosis.

All cases of typhoid fever had persistent fever but step ladder appearance was noted in only 34 cases (20%). Out of the total, 52.9% had toxic appearance and anorexia. Different sign and symptoms observed in our study, are given in figures 1 and 2 respectively.

FIGURE 1: SIGNS OF ENTERIC FEVER

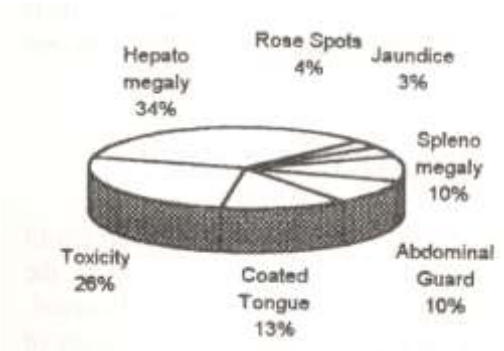
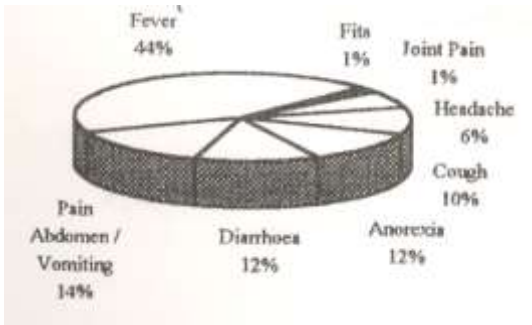


FIGURE 2: SYMPTOMS OF ENTERIC FEVER



Encephalopathy was noted in 38%(65) cases. In 25% of cases with complications, the duration of fever was more than 10 days, whereas in rest of cases with complications, the duration was less than 10 days.

Rising titer of Widal test (up to 1:320) was positively present in 60% of cases of typhoid fever. Most of these cases with high titers of Widal test had complications of enteric fever (Table-1).

TABLE 1: COMPLICATIONS OF TYPHOID FEVER

TITER	COMPLICATIONS PERCENTAGE
1 : 80	10%
1:160	30%
1:390	60%
1:640	90%

These complications included Gastroenteritis 40%), Encephalopathy (38%) Peritonitis (150%), Myocarditis 3.5%, and Ataxia 1.2%. Other diagnostic tests were performed such as Blood Culture in first week of illness, which were positive only in 10% of cases, perhaps because most of the patients had received antibiotics before collection of blood for the test.

Response of treatment in two groups is shown in Table-2.

TABLE 2: RESPONSE TO TREATMENT

DAY	DRUG (CMPCL/ TRVD)	Response	DRUG (TRVD)	Response
	GROUP I		**GROUP II**	
1	CMPCL	0	TRVD	15%
2	CMPCL	0	TRVD	40%
3	CMPCL	0	TRVD	60%
4	CMPCL	20%	TRVD	75%
5	CMPCL	25%	TRVD	95%
6	TRVD	25%	TRVD	100%
7	TRVD	75%		
8	TRVD	80%		
9	TRVD	90%		
10	TRVD	100%		

CMPCL = Chloramphenicol TRVD = Tarivid

DISCUSSION

Persistent fever of step ladder pattern and rising titer of Widal test are well known criteria for typhoid fever but our study has shown different patterns and duration of fever, possibly due to frequent use of antipyretics and sub therapeutic use of antibiotics against *Salmonella typhae* infection. The classical step ladder fever (20^F rise of temperature in the evening and 10^F fall in the morning, so that plateau of 102-104°F is reached by the end of five days) was observed in only 10% of cases.

Diarrhoea was more common than constipation, particularly in infants, while rose

spots were seen in a few patients of enteric fever. Most probably invisibility of rose spots may be due to dark colour of skin in our community.

hi our study, we found encephalopathy in 40% of cases, including change in behaviour, drowsiness, stupor, meningism (normal CSF values). The response to chloramphenicol was poor. In a similar study by Sharma and Gothwala[3] in India, the patients with encephalopathy and other complications were chloramphenicol resistant. In our study response to chloramphenicol was poor in patients with complications as well as without complications. No other explanation could be given except different strains of *Salmonella typhae* as a cause of typhoid fever in this area.

Ibraham et al[6] in 1991 studied the complications of enteric fever in Egypt and found encephalopathy m 25 % of cases. Significant difference from our study could be due to different strain of microorganism. We conclude that sufficient number of cases of typhoid fever present with abnormal symptoms such as diarrhoea, headache, change in behaviour, drowsiness, mild jaundice and that chloramphenicol resistant strains of *Salmonella typhae* are increasing in this area.

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