



Original Article

Current Clinical Profile of Enteric Fever in a Teaching Hospital

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Abstract

This study was designed to assess the current of clinical presentations, complications and prognosis of enteric fever cases in Bangladeshi population and also to assess the antimicrobial sensitivity of the causative organisms. A total of 65 patients, with either fever of any duration with positive blood culture for *Salmonella*, of fever of more than a week with strong clinical evidence of enteric fever along with single Widal titre TO ≥ 160 or AO ≥ 160 or BO ≥ 160 , were selected from indoor medical wards of Rajshahi Medical College Hospital from August 2000 to May 2001. Blood culture with sensitivity pattern, Widal tests and relevant investigations were done in all patients. Majority (87.70%) of the patients presented on the second or third week of their illness. Other clinical profiles of the patients were comparable to different studies done in our country and in abroad. Common complications were pneumonia, meningitis and typhoid psychosis. Isolated salmonellae from blood culture were 100% sensitive to Ciprofloxacin and Pefloxacin. Two out of sixty five patients (3.07%) expired due to complications.

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Introduction

In endemic areas like Bangladesh book-picture signs and symptoms of enteric fever are not often seen. Widespread and indiscriminate use of anti-microbials and anti-pyretics also contributes to the development of some unusual or atypical presentations of enteric fever in our country. Unusual manifestations produce diagnostic dilemma and delay in diagnosis of the disease permitting the patient to pass through varied and uncommon complications. The present study was concerned with the evaluation of varied clinical presentations, complications and prognosis of enteric fever.

Patients and methods

This study was done in a total of 65 patients for whom inclusion criteria were: (1) fever of any duration plus growth of *Salmonellae* from blood (2) Fever for more than a week with strong clinical evidence of fever along with single Widal titre TO ≥ 160 or AO ≥ 160 or BO ≥ 160 . The study duration was from August 2000 to May 2001. Clinical evaluation was done in every patient. Following investigations were done in all cases: (a) Routine blood and urine tests. (b) Blood culture: Done in the Department of Microbiology of Rajshahi Medical College. (c) Widal test done from 8th day onward (d) Other relevant tests were done as per

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condition of the patients like chest X-ray, liver function tests, blood sugar, kidney function tests, CSF examination etc. Patients were followed up in 3 stages: (a) On discharge from the hospital (b) At the end of course of treatment (c) If relapse or side effects of drugs occurred. Patients who dropped out during treatment or who could not afford all necessary investigations or who did not come for follow-up were not included in this study.

Results

Majority of the patients (75.38%) presented in the age group of 13 to 30 years. The results were comparable to the study of other workers^{1,2,3}. Male to female ratio was 1.7:1.45. Most of the patients (69.23%) were of low socioeconomic group. Classic continued type of fever was found in only 33.84% of the cases, remaining cases showed intermittent (53.84%) and remittent (12.30%) types. These figures are almost similar to the findings of Gulati in New Delhi⁴. Clinical

presentations are described in Table-I and complications in table-II. Isolation rate of salmonella from blood culture was highest in those patients who took no antibiotic before sending blood for culture (12 cases out of 17). Blood culture was positive in 75%, 40%, 21.42% and 8.35% of cases in 1st, 2nd, 3rd and 4th week of illness respectively. The sequential decrease in the rate of isolation of salmonella is consistent with other studies^{5, 6, 7}. Comparison between blood culture and Widal test positivity is shown in table-III. Sensitivity pattern of isolated Salmonella species showed 100% sensitivity to Ciprifloxacin and Pefloxacin, whereas 85% were resistant to Amoxycillin, 95% resistant to Cotrimoxazole, 20% resistant to Chloramphenicol. 85% of the cultures were highly sensitive to Lomefloxacin and 15% were moderately sensitive to it. Sensitivity to drugs were comparable to that found by Alam et al⁸.

Table I: Clinical Presentations (n=65)

Symptoms	n (%)	Signs	n (%)
Fever	65 (100.00)	Anaemia	24 (36.92)
Headache	49 (75.38)	Jaundice	1 (1.53)
Anorexia	51 (78.46)	Coated tongue	21 (32.30)
Vomiting	13 (20.00)	Toxic state	13 (20.00)
Chill	52 (80.00)	Splenomegaly	15 (23.07)
Rigor	20 (30.76)	Hepatomegaly	11 (16.92)
Arthralgia	24 (36.92)	Dehydration	17 (26.15)
Myalgia	48 (73.84)	Crepitation in lungs	9 (13.84)
Sweating	30 (46.15)	Meningism	4 (4.61)
Arthritis	1 (1.53)	Impaired Consciousness	6 (9.18)
Constipation	15 (23.07)	Arthritis	1 (1.53)
Diarrhoea	18 (27.69)	Abdominal tenderness	8 (12.30)
Melaena	2 (3.07)	Caecal gurgling	3 (4.61)
Psychosis	3 (4.61)	Rash on skin	2 (3.07)
Impaired Consciousness	6 (9.18)		
Jaundice	1 (1.53)		
Dysuria	2 (3.07)		
Epistaxis	0 (0)		
Abdominal Discomfort	19 (29.23)		
Malaise	33 (50.76)		
Cough	23 (35.38)		

Table II: Distribution of complications (n=65)

Complication*	n (%)
Intestinal haemorrhage	2 (3.07)
Perforation of intestine	1 (1.53)
Hepatitis	1 (1.53)
Arthritis	1 (1.53)
Pneumonia	4 (6.12)
Typhoid meningitis	3 (4.61)
Typhoid psychosis	3 (4.61)
Relapse	2 (3.07)

Table III: Comparative data of Blood culture and Widal test (n=65)

Blood culture*	Widal test	n (%)
Positive	Positive	9 (13.84)
Positive	Negative	11 (16.92)
Negative	Positive	45 (69.23)

Discussion

Enteric fever is present throughout the world but is particularly endemic in countries like ours where water supply and sanitation is poor. The illness may occur at any age, but the commonest age is between 10-30 years. Specialist physicians in our country have come across many patients with rare complications like salmonella hepatitis, liver abscess, psychosis, arthritis etc. as the principal manifestations of enteric fever⁹. Cases with arthritis, and psychosis have also been observed in the present series, though less in numbers. Classical pattern of enteric fever is continued type of fever⁷. Higher number of patients with intermittent type in this series was most likely due to frequent use of antipyretics and indiscriminate use of antimicrobials. Usually deaths from enteric fever occur in the third or fourth week of illness from a complication like intestinal perforation or haemorrhage, septicaemic shock, meningitis or psychosis.

Prior use of antibiotics and delay in presentation reduce the rate of isolation of organisms from blood culture. Although isolation of organisms from stool and urine is also

diagnostic but sometimes non-typhoidal febrile cases may be mis-interpreted as enteric fever in faecal and urinary carriers¹⁰. The culture is time consuming and also not available in all the places of Bangladesh. So Widal test may be regarded as an important diagnostic tool for diagnosing enteric fever in strongly suspected cases in our country. Significant titre is found in 2nd week and onwards in the illness.

Changing pattern of fever and atypical presentations of enteric fever should be borne in mind so that an early diagnosis can be made to initiate appropriate therapy and thereby reducing mortality.

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