

## Clinical profile of typhoid patients

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### Abstract

**Objective:** The present study was undertaken to determine the clinical profile of typhoid fever in hospitalised patients. **Design:** Prospective cross-sectional study. **Setting:** Kathmandu Medical College and Teaching Hospital. **Method:** Total of thirty patients above fifteen years of age who had clinical features strongly suggestive of typhoid fever and on blood culture found to be positive for salmonella typhi were analysed for clinical features. **Result:** Among total of thirty cases, there were 17 (57%) males and 13(43%) females. 86% of cases of typhoid fever clustered around 15-30 years of age. Predominant symptoms were fever (100%), headache (90%), abdominal Pain (37%) and constipation (33%). Common clinical signs were splenomegaly (37%), relative bradycardia (27%) and hepatomegaly (17%). None of the patients presented with complications. **Conclusion:** The clinical profile of typhoid fever in our study revealed not much difference from that of other studies on typhoid fever. Rose spots were not noticed and we did not find a single case of complication of typhoid fever. Probably early initiation of antibiotics prevented the complications.

**Key words:** Typhoid fever, S. Typhi.

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Typhoid fever is a systemic infection with the bacterium *Salmonella typhi*. This highly adapted, human specific pathogen has evolved remarkable mechanisms for persistence in its host that help to ensure its survival and transmission<sup>1</sup>. Typhoid fever was an important cause of illness and death in the overcrowded and unsanitary urban conditions of the United States and Europe in the 19th Century<sup>2</sup>. The provision of clean water and good sewage systems led to a dramatic decrease in the incidence of typhoid in these regions. Today most of the burden of disease occurs in the developing world, where sanitary conditions remain poor. Annual incidence rates of 198 per 100,000 in Mekong Delta region of Vietnam<sup>3</sup> and 980 per 100,000 in Delhi, India<sup>4</sup>, have recently been reported. According to the best global estimates there are at least 16 million new cases of typhoid fever each year, with 600,000 deaths<sup>5</sup>. Typhoid fever is an important public health problem in the many of the underdeveloped and developing countries. It has been estimated that approximately 12.5 million cases of typhoid fever occurs annually in the developing world (excluding China) with 7.7 million cases in Asia alone<sup>6</sup>. The disease is predominantly a disease of school age children and young adults and reported to be milder in infants and young children<sup>7-9</sup>. Various organs have been involved in the course of typhoid fever, resulting in wide array of presentation<sup>10</sup>. The

aim of our study was to determine the clinical profile of typhoid fever in hospitalised patients in Kathmandu Medical College and Teaching Hospital (KMCTH).

### Material and methods

30 consecutive cases of typhoid fever above 15 years of age admitted in medical wards of KMCTH from June 2002 to June 2003 were selected for the study. Cases were diagnosed as typhoid fever who had clinical features strongly suggestive of typhoid fever and on blood culture found to be positive for *S. typhi*. No history of typhoid immunization was obtained from any of the cases. Age, sex and clinical features were analysed.

### Results

There were 17 (57%) males and 13 (43%) females. Most cases of typhoid (86%) clustered around 15-30 years of age. Table 1 shows the clinical features of hospitalised patients.

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**Table 1.** Clinical symptoms and signs of patients at admission

Features	Number of patients	(%)
<b>Symptoms</b>		
Fever	30	100
Abdominal pain	11	37
Vomiting	7	23
Headache	27	90
Diarrhoea	8	27
Constipation	10	33
Nausea	8	27
Malaise	5	17
<b>Signs</b>		
Hepatomegaly	5	17
Splenomegaly	11	37
Rose spot	0	0
Relative bradycardia	8	27

### Discussion

Salmonella typhi infection remains a major and serious problem in developing countries. With an estimation of 12.5-16.6 million cases each year and 600,000 deaths, typhoid fever continues to be a major cause of morbidity and mortality in tropical countries, especially among children<sup>6,11</sup>. However, in more affluent regions of the world proper sanitation has successfully diminished the infections with *S. typhi*. In one retrospective study of typhoid fever 82.3% of cases were between ages of 10-39 years<sup>12</sup>. In our study 86% of cases of typhoid fever clustered around 15-30 years of age. The predominant symptoms of typhoid fever were fever (100%), headache (90%), and abdominal pain (37%). This was comparable with two African studies on typhoid fever<sup>12,13</sup>. Adult patients with typhoid fever often have constipation but in young children and in adults with HIV infection diarrhoea is more common<sup>14,15</sup>. In the present study also 10 cases (33%) presented with constipation as compared to 8 cases (27%) with diarrhoea.

Splenomegaly (36%), relative bradycardia (27%) and hepatomegaly (17%) were the major physical findings in our study. Briedis et al, reported that 30% of patients with typhoid fever had splenomegaly<sup>16</sup>. In a study by Nasrallah et al, relative bradycardia was the leading clinical sign followed by splenomegaly, hepatomegaly and rose spot<sup>17</sup>. In our study relative bradycardia was present in 8 cases (27%) and none of the patients in our study had rose spot. Rose spots, blanching erythematous maculopapular lesion approximately 2-4 mm in diameter, are reported in 5-30% of cases<sup>1</sup>. These lesions are easily missed in dark skinned patients. Complications of typhoid fever

occur in 10 to 15 percent of patients and particularly likely in patients who have been ill for more than 2 weeks. Many complications have been described of which gastrointestinal bleeding, intestinal perforation, and typhoid encephalopathy are the most important<sup>1</sup>. None of the patients in our study presented with complication of typhoid fever. Probably early initiation of antibiotics prevented the development of complications in the present study.

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