Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr ICV 2018= 82.06

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Original Research

Assessment of clinical profile of typhoid fever patients- A clinical study

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ABSTRACT:

Background: The present study was conducted to assess clinical profile of typhoid patients. **Materials & Methods:** 74 patients diagnosed with typhoid fever of both genders were enrolled. Clinical features were recorded in all patients. Widal testing was also done. **Results:** Out of 74, males were 30 and females were 44. Stain O+ was seen in 36, AH+in 15, H+ in 16 and BH+ in 7 patients. The difference was significant (P< 0.05). Common clinical features were fever seen in 68, fatigue in 34, loss of appetite in 50, abdominal pain in 62, constipation in 15, diarrhea in 24, cough in 38 and skin rashes in 17 patients. The difference was significant (P< 0.05). **Conclusion:** Common clinical features were fever, fatigue, loss of appetite, abdominal pain, constipation, diarrhea, cough and skin rashes.

Key words: Fever, Tyhoid, Widal testing.

Received: 12 November, 2019 Accepted: 21 December, 2019

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This article may be cited as: Shailat P, Singh A. Assessment of clinical profile of typhoid fever patients- A clinical study. J Adv Med Dent Scie Res 2020;8(1):285-288.

INTRODUCTION

Typhoid fever is a disease caused by the bacterium Salmonella enterica serovar Typhi (Salmonella Typhi), which is transmitted through ingestion of food and water contaminated with feces from patients with typhoid fever or carriers. Global estimates indicate that 11–20 million individuals are infected with the disease, with 120 000–220 000 dying annually.[1] The disease incidence is especially high in preschool children and infants. Countries in South Asia have the highest incidence of the disease, though recent estimates suggest a comparatively substantial burden in African countries.[2]

As the clinical picture of typhoid fever is often unspecific, misdiagnosis and insufficient or inadequate treatment are potential risks associated with the disease. In the absence of difficult-to-obtain bone marrow specimens, microbiologic culture of a blood sample is considered to be the current state-of-the art test for the diagnosis of typhoid fever even though its sensitivity may be as low as 40%.[3]

The current gold standard for diagnosis of typhoid fever is blood culture.[4] However blood culture requires a well- equipped laboratory, skilled staff, and may take up to seven days. In the light of limited laboratory facilities in many developing countries, the diagnosis of typhoid fever remains a challenge.[5] Specific clinical signs or cheap and accurate point of care tests have remained elusive and clinical algorithms are controversial because of their limited generalizability. In addition to laboratory-confirmed typhoid fever the World Health Organization provides case definitions for suspected and probable typhoid fever for use during surveillance.[6] The present study was conducted to assess clinical profile of typhoid patients.

MATERIALS & METHODS

The present study was conducted among 74 patients diagnosed with typhoid fever of both genders. Typhoid

fever suspected patients are defined as patients (axillary temperature, ≥ 38 °C) who reported having a fever for at least 3 days and headache. All patients were enrolled after obtaining their written consent. Ethical approval was obtained before starting the study.

Data such as name, age, gender etc. was recorded. A thorough clinical examination was done. Clinical features were recorded in all patients. A total of 5 ml blood sample was collected aseptically using 70% alcohol and 2% tincture of iodine from a peripheral vein in each patient. Then the blood sample was dispensed into a sterile bottle containing 45 ml of Tryptic soy broth culture medium. The inoculated bottles were incubated aerobically at 37 °C for 7 days in the Microbiology laboratory and observed for a sign of bacterial growth. Laboratory confirmation of typhoid was done with widal test. Results were tabulated and statistically analyzed. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 74		
Gender	**Males**	**Females**
Number	30	44

Table I shows that out of 74, males were 30 and females were 44.

Table II Laboratory confirmation of widal test

Strains	Number	P value
O+	36	0.04
AH+	15	
H+	16	
BH+	**7**	

Table II, graph I shows that stain O+ was seen in 36, AH+in 15, H+ in 16 and BH+ in 7 patients. The difference was significant (P< 0.05).

Graph I Laboratory confirmation of widal test

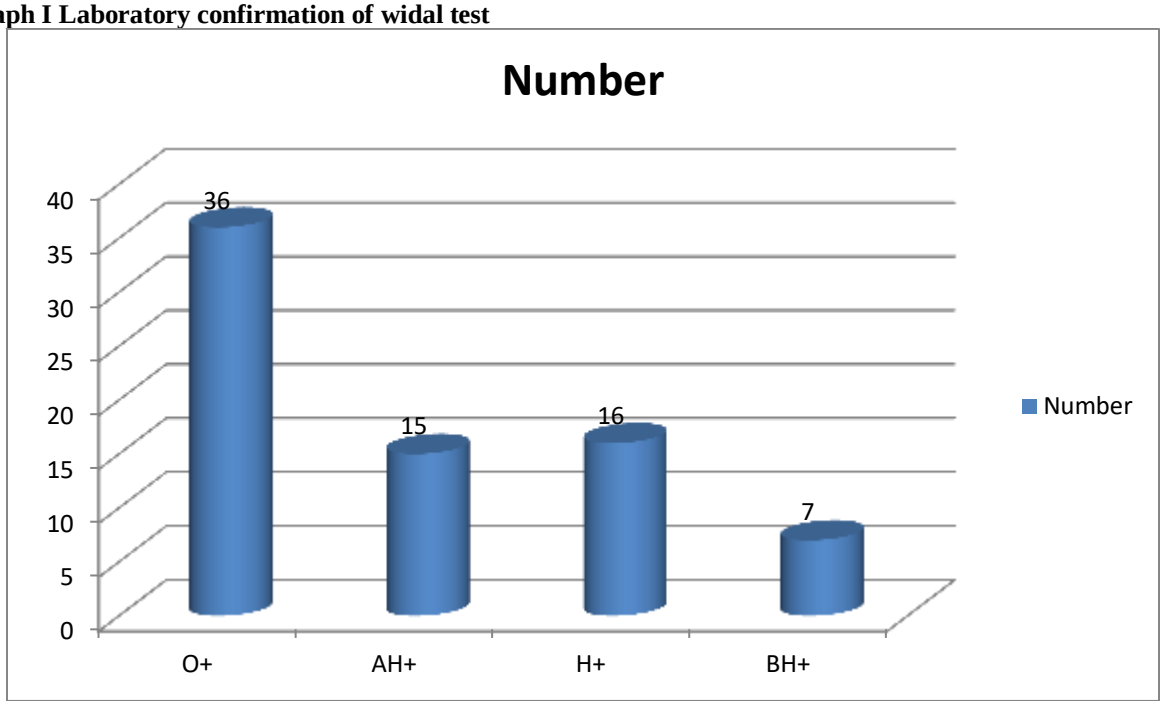
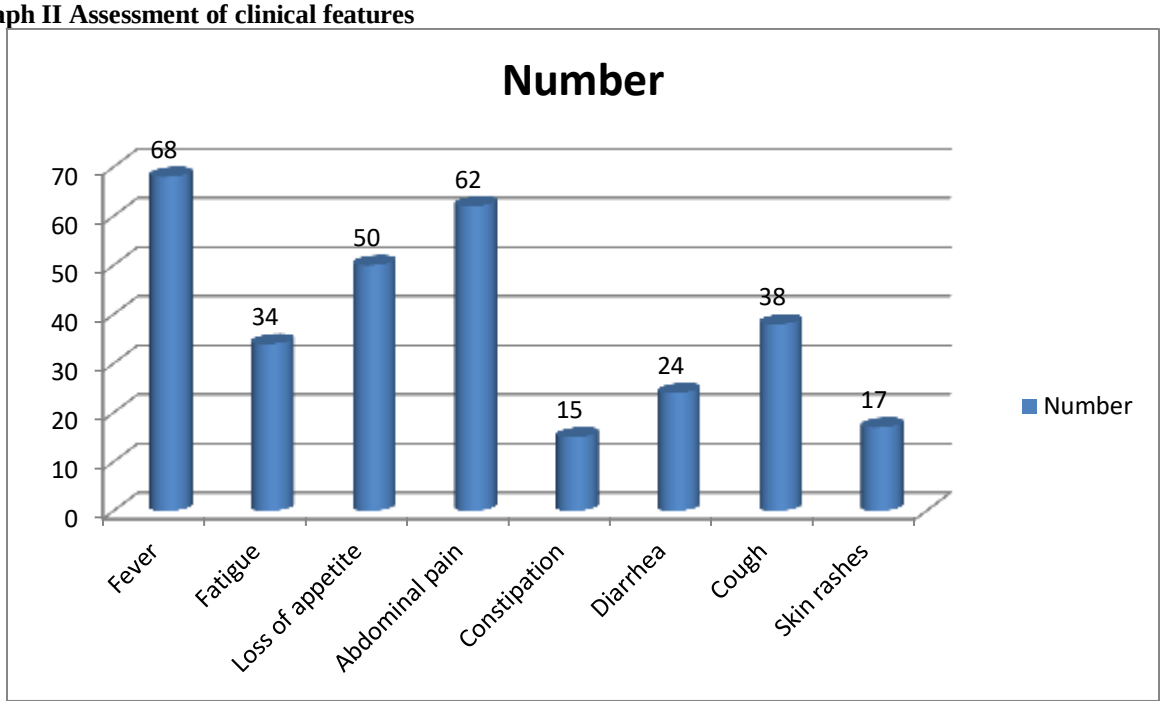


Table III Assessment of clinical features

Features	Number	P value
Fever	68	0.021
Fatigue	34	
Loss of appetite	50	
Abdominal pain	62	
Constipation	15	
Diarrhea	24	
Cough	38	
Skin rashes	17	

Table III, graph II shows that common clinical features were fever seen in 68, fatigue in 34, loss of appetite in 50, abdominal pain in 62, constipation in 15, diarrhea in 24, coughin 38 and skin rashes in 17 patients. The difference was significant (P< 0.05).

Graph II Assessment of clinical features



DISCUSSION

Typhoid fever is a major public health problem in low-income and middle-income countries (LMICs) like Ethiopia where there are substandard hygiene and unsafe drinking water supplies and the quality of life is poor.[7] Typhoid fever is a systemic infection caused by human-specific food and water-borne pathogens, such as *Salmonella enterica* subspecies, enterica serovar typhi (*S. typhi*) or by the related but less virulent *Salmonella paratyphi* A, B, and C, collectively called typhoidal *Salmonella*.[8] It is transmitted by the fecal–oral route through contaminated water and food. In 2010, the estimated global episodes of typhoid fever ranged from 13.9 to 26.9 million cases.[9] The present study was conducted to assess clinical profile of typhoid patients.

In present study, out of 74, males were 30 and females were 44. We found that stain O+ was seen in 36, AH+ in 15, H+ in 16 and BH+ in 7 patients. Habte et al[10] determined the prevalence, clinical presentation at the time of diagnosis and associated factors of typhoid fever among febrile patients. A blood sample was collected and inoculated into Tryptic soy broth. A total of 421 adult febrile patients suspected of typhoid fever were included in the study. Of these, the overall prevalence of culture-confirmed typhoid fever was 5.0% (21/421). The prevalence of typhoid fever was significantly associated with rural residence (8.4%). As compared to the urban resident, the rural resident was 3.6 times more likely found to have culture-confirmed typhoid fever. The prevalence of typhoid fever was significantly associated with those patients whose water

source was spring 7 (12.3%) and river 7 (13.2%). All of those study participants who used treated water were culture negative. Fever for ≥ 5 days, abdominal pain, and skin rash independently predicted blood culture-confirmed typhoid fever.

We found that common clinical features were fever seen in 68, fatigue in 34, loss of appetite in 50, abdominal pain in 62, constipation in 15, diarrhea in 24, cough in 38 and skin rashes in 17 patients. Bhargava et al[11] consisted of 92 subjects (male- 40, female-52) suffering from typhoid fever. Typhoid fever was defined by fever > 38.5°C for longer than three days and the isolation of S. typhi from blood culture. 5 mg/kg of Cefixime po BD daily was advised in pediatric patients. Adult patients received a dose of 200 mg po, BD daily. Patients were evaluated on day 0, day 5, and day 10. The primary criteria of efficacy were absence of symptoms and signs of infection at day 10 of treatment and negative culture to S. typhi at day 10 of treatment. Results thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant. Results: This study included 40 males and 52 females.). This study consisted of 46 students, 12 children, 22 housewife, 10 official and 2 others. Following strains were seen O+ (42), H+ (12), AH+ (21), BH + (11) and H, BH + (7).

Ley et al[12] assessed the sensitivity and specificity of the Tubex test among Tanzanian children hospitalized with febrile illness using blood culture as gold standard. Evaluation was done considering blood culture confirmed S. Typhi with non-typhi salmonella (NTS) and non - salmonella isolates as controls as well as with non-salmonella isolates only. Of 139 samples tested with Tubex, 33 were positive for S. Typhi in blood culture, 49 were culture-confirmed NTS infections, and 57 were other non-salmonella infections. Thirteen hemolyzed samples were excluded. Using all non - S. Typhi isolates as controls, we showed a sensitivity of 79% and a specificity of 89%. When the analysis was repeated excluding NTS from the pool of controls we showed a sensitivity of 79% and a specificity of 97%. There was no significant difference in the test performance using the two different control groups.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that common clinical features were fever, fatigue, loss of appetite, abdominal pain, constipation, diarrhea, cough and skin rashes.

REFERENCES

1. Yangi D, de Vries GC, Rahardjo D, Alimsardjono L, Wasito EB, De I, et al. Emergence of fluoroquinolone resistant strains of Salmonella enteric in Surabaya, Indonesia. Diagn Microbiol Infect Dis. 2009; 64: 422-6.
2. Capoor MR, Rawat D, Nair D, Hasan AS, Deb M, Aggarawal P, et al. In vitro activity of Azithromycin, newer Quinolones and cephalosporins in ciprofloxacin-resistant Salmonella causing enteric fever, J Med Microbial. 2007; 1490-4.
3. Giris NI, Tribble DR, Sultan Y & Farid Z, Short course chemotherapy with cefixime in children with multidrugresistant Salmonella typhi Septicaemia, J Trop Pediatr., 41(6), 1995, 464-5.
4. Rang HP et al. Pharmacology, Churcill living stone 2007; 666-673.
5. Mweu E, English M. Typhoid fever in children in Africa, Tropical Medicine and International Health. 2008; 13: 532- 540.
6. Akmm R et al. Multi Drug Resistant Typhoid Fever in Children: A Review, J Dhaka Med.Coll. 2008; 2: 121-126.
7. Hosoglu S, Selen MK, Geyik MF, Akalin S, Ayaz C, Acemoglu H, Loeb M. Risk factors for typhoid fever among adult patients in Diyabakir, Turkey. Epidemiol Infect. 2006;134(3):612–616.
8. Sattar AA, Jhora ST, Yusuf MA, Islam MB, Islam MS, Roy S. Epidemiology and clinical features of typhoid fever: burden in Bangladesh. J Sci Found. 2012;10(1):38–49.
9. Kanungo S, Dutta S, Sur D. Epidemiology of typhoid and paratyphoid fever in India. J Infect Dev Ctries 2008;2(6):454–460.
10. Habte L, Tadesse E, Ferede G, Amsalu A. Typhoid fever: clinical presentation and associated factors in febrile patients visiting Shashemene Referral Hospital, southern Ethiopia. BMC Research Notes. 2018 Dec 1;11(1):605.
11. Bhargava M, Chandra C. Analysis of cefixime in the management of typhoid fever: A clinical study. J Adv Med Dent Scie Res 2016;4(6):145-147.
12. Ley B, Thriemer K, Ame SM, Mtove GM, Von Seidlein L, Amos B, Hendriksen IC, Mwambuli A, Shoo A, Kim DR, Ochiai LR. Assessment and comparative analysis of a rapid diagnostic test (Tubex®) for the diagnosis of typhoid fever among hospitalized children in rural Tanzania. BMC infectious diseases. 2011 Dec 1;11(1):147.