

## “A Prospective Study of Patients Presented with Various Clinical Manifestations of Enteric Fever in Western U.P ”

Dr. Bharat Veer Manchanda<sup>1</sup>, Dr. Girish Dubey<sup>2</sup>, Dr. Saloni Mehra<sup>3</sup>, Dr. Umesh Verma<sup>4</sup>, Dr. Saminder Chaudhary<sup>5</sup>, Dr. Arun Khatri<sup>6</sup>

<sup>1</sup>Assi. Professor In Dept Of Medicine , Subharti Medical College, Meerut

<sup>2,4,5,6</sup>Post Graduate In Dept Of Medicine ,Subharti Medical College, Meerut

<sup>3</sup> Post Graduate In Dept Of Surgery ,Subharti Medical College, Meerut

### I. Introduction

Enteric (typhoid) fever is a systemic disease characterized by fever and abdominal pain and caused by the dissemination of *S.typhi* or *S.paratyphi* .

The disease was initially called typhoid fever because of its clinical similarity to typhus. In the early 1880s typhoid fever was clearly defined pathologically as a unique illness on the basis of its association with enlarged peyer's patches and mesenteric lymph nodes. In 1869, given the anatomic site of infection, the term enteric fever was proposed as an alternative designation to distinguish typhoid fever from typhus. However, to this day, the two designations are used interchangeably.

Humans are the only natural host and reservoir. The infection is transmitted by ingestion of food or water contaminated with feces. Contaminated water, and raw fruit and vegetables fertilized with sewage water, have been sources of outbreaks. The highest incidence occurs where water supplies serving large populations are contaminated with feces. Cold foods such as Ice-cream is recognized as a significant risk factor for the transmission of enteric fever.

On entering the human body, *Salmonella typhi* crosses the intestinal epithelial layer and is carried by macrophages to the liver, pancreas, and spleen. From the liver, the organisms can be shed into the gallbladder, where, being resistant to bile, they can stay for long periods and give rise to either an active infection (cholecystitis) or a chronic infection (carrier state).

About 3 to 5% of infected people become carriers, particularly those with gallbladder abnormalities, such as gallstones. These people are often asymptomatic and can remain in this state for many years with little or no deleterious effect. However, they continue to excrete bacteria for prolonged periods of time, thus constituting a potential source of infection, particularly in the setting of food preparation. The story of “Typhoid Mary,” a cook in early 20th century New York who infected approximately 50 people (three fatally), highlights the role of asymptomatic carriers in maintaining the cycle of person-to-person spread.

Besides, the chronic carrier state is the single most important risk factor for development of hepatobiliary carcinomas, as salmonella carriers with gallstones have been shown to carry an 8.47-fold higher risk of developing cancer of the gallbladder. It is for these reasons that the eradication of carriage is of prime importance.

The world sees approximately 22 million new typhoid cases occur each year. The worst sufferers are young children in poor, resource-limited areas, who make up the majority of the new cases and mortality figures (215,000 deaths annually). Most of these deaths are due to *S. typhi* infection. The South-east Asian countries bear the brunt of the disease, particularly children and young adults. Other areas of prevalence include Africa and South America. Outbreaks have been reported from Zambia, Zimbabwe, Fiji and the Philippines. There is evidence that enteric fever is often under-reported, so the actual figures might be even more than those mentioned above.

The illness occurs in all parts of the world where there is contaminated water supply and sanitation. The disease presents as a clinical dilemma as illness resembles several other infections and because of emergence of drug resistant organisms. Undiagnosed and undertreated cases may result in serious complications. We undertook this study with the aim of documenting the clinical picture, complications of enteric fever.

### II. Material And Method

This was an prospective observational study which was conducted in patients who were admitted in C.S.S.H, SUBHARTI MEDICAL COLLEGE, MEERUT (U.P). A total 30 patients with enteric fever were enrolled in this study from July 2016 to October 2016. All patients who were tested positive either by typhi dot or by widal test were included in this study.

Detailed history and clinical examination with duration of illness, clinical manifestation (fever, pain abdomen, vomiting, anorexia, weight loss, constipation, diarrhoea, headache, myalgia) were noted.

In laboratory investigations Cbc, lft, rft, fever profile(mp by card, dengue profile, typhi dot, widal) blood c/s , urine routine/microscopy, chest xray, usg(w/a) were done .

### III. Results

#### Distribution According To Age And Sex

Age	Frequency	Percentage
18-29	10	33.3
30-39	8	26.6
40-49	7	23.3
>50	5	16.6

#### Distribution According To Sex

Sex	Frequency	Percentage
Male	21	70
Female	9	30

#### Distribution According To Clinical Manifestation

Symptoms	Frequency	Percentage
Fever	22	73.3
Pain Abdomen	18	60
Vomitting	9	30
Constipation	14	46.6
Diarrhoea	5	16.6
Headache	8	26.6
Myalgia	12	40

#### Distribution According To Physical Findings

Physical Findings	Frequency	Percentage
Coated Tongue	16	53.3
Rose Spots	6	20
Hepatomegaly	14	46.6
Splenomegaly	9	30
Anemia	13	43.3
Relative Bradycardia	9	30

#### Distribution According To Compication

	FREQUENCY	PERCENTAGE
Altered Sensorium(Enteric Encephalopathy)	1	3.3
Intestinal Perforation	2	6

### IV. Discussion

Enteric fever remains an important and persistent health problem in countries like India with inadequate sanitation and unsafe water supply. cardinal features of Typhoidare , headache, toxemia, abdominal pain (early in children), nausea, dry and coated tongue, relative bradycardia (most important clinical sign), and rose spots, which are rarely seen in clinical practice. First, the liver becomes palpable. The spleen usually becomes palpable only after a week.

In this study we observed the clinical presentation of patiets with enteric fever. Out of all cardinal features of fever was most prominent feature (73.3%)fever exhibits a step-ladder pattern — i.e., the temperature rises over the course of each day and drops by the subsequent morning. The peaks and troughs rise progressively over time. After fever pain abdomen was the 2<sup>nd</sup> most prominent feature which was noted in patients pain abdomen was Diffuse and tenderness; sometimes, fierce colicky pain in right upper quadrant.

Constipation was noted in around 46.6% of patients reason behind constipation Monocytic infiltration in Peyer’s patches, causing inflammation and narrowing of bowel lumen, resulting in constipation.

Dull frontal headache was noted in around 26.6% of patients.

Relative bradycardia was noted in around 30%of patients(Relative bradycardia — temperature elevations not accompanied by a physiological increase in the pulse rate)

In around 20% of patients rose spots were noted. Rose spots Salmon-colored, blanching, maculopapules on the chest, abdomen, and back, may not be visible in dark-skinned individuals 1-4 cm in width, less than 5 in number, They resolve within 2-5 days. Represent bacterial emboli to the dermis. Enteric encephalopathy (typhoid state) was noted in 1 patient. Typhoid state is characterized by apathy, confusion, psychosis .

Bowel perforation was noted in 2 patients. Bowel perforation and peritonitis occurs due to necrosis in Peyer's patches . In our study we noticed male (60%) were more affected than female (40%). Incidentally, this slight preponderance of infections in males probably could be due to the fact that females are brought less frequently to hospitals because of various social, financial and religious bars in our male dominated society and also due to the fact that male goes outside more, takes outside food more frequently than female. The population affected most was of low socioeconomic group which possibly as a result of poor sanitation and overcrowding

For the prevention of disease in developing countries like India public education measures should be encouraged regarding the need for thorough hand washing before eating and preparing/handling foods and sanitary disposal.

In the diagnosis of typhoid fever though none of the clinical symptoms and sign have very high accuracy, diagnostic criteria's may be helpful when combined with high index of suspicion and relevant laboratory investigations.