



Case Report

CLINICAL REVIEW OF TYPHOID PATIENT PRESENTED IN LOCAL CLINICAL SETTING OF SARGODHA, PAKISTAN

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ABSTRACT

The bacterium *Salmonella typhus* causes acute symptoms of typhoid following gastro intestinal complications. Thus, we have examined a 20 year-old boy, presented in District Head Quarter (DHQ) Hospital Sargodha, Pakistan suffering from high grade fever since last two weeks. He had typical signs of typhoid. The *Salmonella typhus* was confirmed by laboratory investigations- Widal test. He was then recommended Ciprofloxacin and Levofloxacin with other symptomatic medication. The cure rate and effectiveness of these antibiotics were outstanding. Thus, we can infer that, the treatment was correct and rational, because patient was absolutely recovered within a week.

KEY WORDS: Typhoid Fever, Widal test, Antibiotic treatment, Disease wiped out

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INTRODUCTION

Typhoid fever is an illness that is triggered by two different bacteria, *Salmonella typhus* and *Salmonellaparatyphi*, the later one cause the disorder but with less intensity. Water and food, contaminated by animal and human feces are main sources of this disease to spread to other people in the region. The beginning of illness is lethargic accompanied with fever and constipation. In some patients diarrhea may arise early but mostly die out when the fever and bacteremia occur.

The significant characteristic of Salmonellae is that they are gram-negative rods that cannot ferment lactose but do yield H₂S--features that are mostly used in their laboratory identification [1]. Their antigens cell wall O, flagellar H and capsular Vi (virulence) are noteworthy for taxonomic and epidemiologic commitments. Clinically there are two conflicting groups of Salmonella, named as, the typhoidal and non-typhoidal species. The typhoidal species are *S. typhus* and *S. paratyphus*. [1]

In the enteric fevers, when the organism is to be exposed, the blood culture technique can be used during first two weeks of infection; there would be positive outcome in the stool cultures. When these bacteria are cultured in MacConkeys or EMB agar non-lactose-fermenting (colorless) colonies are produced [1]. Another method of diagnosis of causative agent of typhoid fever is serological detection by recognizing the increase in antibody concentration in the patient's serum (Widal test).

The principles symptoms of typhoid fever are as follows: High fever (temperature of 38–40°C [102–104°F]), weakness, abdominal pain, change in stool output, such as constipation or diarrhea and seldom, a flat (not raised) impetuous of dark pink spots.

CASE PRESENTATION:

A 20-year-old male went to local hospital, DHQ Sargodha with a two-week history of severe frontal headache, high-grade fever attainment 39.4°C (103°F) and abdominal pain. In past, he had not suffered from this disease and was not on any medication. Patient was a mill worker and work in a cotton darning industry in company with 200 workers. His communal and monetary stature was low. He was under weight as his BMI showed. He had not engaged any antibiotics, till now. On the groundwork of fundamental diagnosis physician recommended him 7 days rehabilitation containing:

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Paracetamol Tabs 500mg bid (Twice a day) and Augmentin Tabs 625mg tid (Thrice a day).

Then he returned to the hospital five days later, as his fever and headache had not terminated and he was also suffering from non-productive cough, bone and muscle pain, abdominal uneasiness and constipation. On perceiving his conditions physician suggested him following diagnostic tests: CBC-blood test, ESR and Widal test, and he was acknowledged to the gastroenterology constituency. Three days later patient visited physician along his test reports.

On clinical examination, we had following results. His body temperature was 38.8°C (102°F); his heart rate was 92/min with a blood pressure of 124/75mmHg. The patient was with white sclera and without rashes. His abdomen was marginally apprehensive with snip bowel sounds. There was amplification of liver and spleen.

When his laboratory test results received the eosinophilia was not observed, and microscopic discrepancy showed leucocyte values (7Gpt/L (4.0 to 9.0), neutrophils 63.9%, lymphocytes 28.9%, monocytes 6.6%, eosinophil 0.15%, basophils 0.5%). Malarial test came out negative. Dengue fever and hepatitis C were not witnessed. There was no lymph node infection. Stool microscopy and culture were positive. There was elevation in erythrocyte sedimentation rate (ESR). Agglutination of antibodies against H and O antigens of *S. typhus* is measured by Widal test, which was positive.

On the foundation of lab reports physician analyzed typhoid fever and recommended the medicines for first week. Ciproxin (Ciprofloxacin) 500 mg Tabs. BD (twice daily), Panadolextra (paracetamol + caffeine) 500 mg Tabs. TD (thrice daily), Omega (Omeprazole) 20 mg Caps. OD (once daily) before breakfast, Centrum Tabs. (Multi vitamin) OD (once a day) and Nims (Nimesulide) Tabs. OD (once a day) when needed.

For second week the medications which were acclaimed: Leflox (Levofloxacin) 250 mg Tabs. Bid (twice a day), Panadol (Paracetamol) 500 mg Tabs. Tid (thrice a day), Neuxam (Alprazolam) 0.5 mg Tabs. Od (once a day) at night, Surbex Z (Multivitamins) Tabs. Od (once a day), Synflex (Naproxen Sodium) 550mg Tabs. Od (once a day) when needed and Mucaïn suspension 2 spoons in case of any abdominal trouble.

Ten days later, the fever diminished and the headaches committed. Frequent stool controls were negative for *Salmonella specie*. After 14 days the patient was discharged from hospital in an enhanced condition. Up to now, the patient remains healthy and has not undergone from any typhoid degeneration.

DISCUSSION

In this case, first physician thought it to be a normal fever but prescribed test as a prophylactic measure. Test reports showed the presence of *Salmonella typhi*, so it was typhoid fever which was leading towards enduring condition. The patient was treated with ciprofloxacin and levofloxacin. These antibiotics are fluoroquinolones and have bactericidal effect. They inhibit the DNA synthesis of bacteria by inhibiting the DNA gyrase. They also harm the growing bones and cartilage so their use should be avoided in pregnant women and teenagers. The adverse effects of these drugs include soreness, burning and stinging in the arms and legs [1].

History indicates that typhoid fever is very infrequent in the established nations like USA but it is more common in underdeveloped nations, especially in Africa, Asia and Latin America. Although it is rarely pragmatic in western world hospitals but infection with *S. typhus* is still a worldwide health problem. The World Health Organization (WHO) reviewed 22 million cases and 200,000 deaths per year global [6]. Vaccines are available for prevention of typhoid fever. There are three vaccines licensed but two of them are commercially accessible. At present, a life-attenuated vaccine strain (Ty21a) that surpluses the virulent Vi antigen and a parenteral Vipolysaccharide vaccine are used [7, 8]. A current Cochrane meta-analysis acknowledged 17 randomized judgments about typhoid vaccines and showed that both the vaccines are alike effective. Three doses of the oral Ty21a vaccine provided 34

to 58% of protection rate. While 30 to 70% of combined efficacy was presented by parenteral vaccine for two years [2].

In endemic countries, diagnosis of typhoid fever is often done by the clinical performance [7]. The investigative gold standard remains the bacterial culture especially from the bone marrow area [6]. The classical serologic test was first described in 1896 by Felix Widal (the Widal test). This agglutination assay uses the Vi capsular and H, O (somatic) antigens in newer versions [4]. In general, within 7 to 10 days, a four-time upswing in the agglutinin concentration is well thought-out to be a positive test. As stated by the WHO forty years ago, host defense mechanisms are poorly understood for human typhoid infection and the nature of protective immunity is chiefly unidentified [5]. In an analysis about investigative tests for typhoid fever, Olopoenia *et al.* opined that in the endemic areas, the Widal test should only be reflected positive when a 4 times increase in concentration, observed within two to three weeks and disputes against the convenience of a single test [3]. The sanitary conditions of hospital were good, the staff was cooperative but pharmacists were not available for appropriate counseling of patients. The rampant countries are facing many challenges for the effective control and management of typhoid fever, comprising the setting up of prompt clinical diagnosis and corroboration, but now both *S. typhi* and *S. paratyphi* are rapidly becoming resilient to commonly used antibiotics and this is a chief point to be worried about. This matter would entail a host of measures, including passable investments in safe water and hygiene facilities, public edification, control over antimicrobial recommending and over the counter trades, and huge scale vaccination schemes.

CONCLUSION

The treatment continued for 14 days, after which signs and symptoms got vanished. So it is concluded that ciprofloxacin and levofloxacin has brilliant efficiency and cure rate against typhoid fever. These drugs also have the ability to reduce the duration of disease by causing an early effervescence and also prevent the chances of any rapid relapse of the disease. The patient was fully recovered and it was a rational treatment.

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