

Case Report

Jarisch-Herxheimer Reaction in Enteric Fever: Case Report

Chowdareddy N^{1*}, Anil Kumar Y.C¹, Savitha², Manoj², Gopal K³, Ravichander³

¹Assistant Professor, Department of Pediatrics, MVJ Medical College, Bangalore, India

²Postgraduate, Department of Pediatrics, MVJ Medical College, Bangalore, India

³Professor, Department of Pediatrics, MVJ Medical College, Bangalore, India

***Corresponding author**

Dr. Chowdareddy N

Email: ncreddypeds@gmail.com

Abstract: Typhoid fever is a systemic infection caused by *Salmonella enterica* serotype typhi. It remains an important worldwide endemic cause of morbidity and mortality. The presentation of typhoid fever may also differ according to age. Typhoid fever usually manifests as high-grade fever with a wide variety of associated features, such as generalized myalgia, abdominal pain, hepatosplenomegaly, abdominal pain, and anorexia. In children, diarrhea may occur in the earlier stages of the illness and may be followed by constipation. Diarrhea, toxicity, and complications such as disseminated intravascular coagulopathy (DIC) are also more common in infancy, resulting in higher case fatality rates. However, some of the other features and complications of typhoid fever seen in adults, such as relative bradycardia, neurologic manifestations, and gastrointestinal bleeding, are rare in children. We present an unusual case of enteric fever with gastrointestinal bleeding and Jarisch-Herxheimer reaction in an immunocompetent child.

Keywords: Typhoid fever, *Salmonella*, Jarisch-Herxheimer reaction

INTRODUCTION

Enteric fever continues to be a global health problem, with an estimated 13-17 million cases worldwide resulting in 60,000 deaths per year [1]. Paratyphoid fever caused by *Salmonella paratyphi* A is less serious than typhoid fever [2, 3]. Consequently, severe complications are uncommon. Typhoid fever in its first week of illness manifest with fever, headache, abdominal pain, gastrointestinal symptom like anorexia, nausea, vomiting, constipation; with or without specific signs like relative bradycardia, hepatomegaly, splenomegaly and abdominal tenderness developing in second week of illness. Complications like acute abdomen, intestinal perforation, pneumonia, psychosis, ataxia, altered sensorium, pancreatitis, hepatitis and nephritis are likely to develop in third to fourth week of illness [4, 5]. Initial presentation with gastrointestinal bleeding and Jarisch-Herxheimer reaction are very rare manifestations of typhoid fever.

CASE REPORT

A 13 year old male child presented with complaints of fever of 1 week duration with pain abdomen and vomiting of 2 days duration. On examination, vitals – stable, systemic examination-unremarkable except diffuse tenderness on palpation of abdomen. Investigations (CBC with PBS, Widal, Malarial card test, Biochemical parameters, chest and abdominal x ray, USG abdomen) revealed no abnormality.

Suspecting enteric fever clinically, child was started on Inj. Ceftriaxone. On second day of treatment, child developed high grade fever, upper GI bleed, altered sensorium with shock requiring inotrope support and blood transfusion. Blood culture yielded *Salmonella*. Child managed with antibiotics and supportive treatment. Child responded well to the treatment, cured and discharged.

DISCUSSION

The manifestations of typhoid fever are often protean and a high index of suspicion is required for diagnosis, especially in endemic areas such as India. Enteric fever encompasses a disease with a range of severity, with typhoid fever being severe and paratyphoid fever a milder illness. Worldwide, it accounts for 16 million cases annually with an estimated 60,000 deaths [6]. *S. typhi* accounts for the majority of infections. Over the course of the first week of illness, the notorious gastrointestinal manifestations of the disease develop. These include diffuse abdominal pain and tenderness and, in some cases, fierce colicky right upper quadrant pain. The individual then develops a dry cough, dull frontal headache, delirium, and an increasingly stuporous malaise. At approximately the end of the first week of illness, the fever plateaus at 103-104°F (39-40°C). The patient develops rose spots, which are salmon-colored, blanching, truncal, maculopapules usually 1-4 cm wide and fewer than 5 in number; these generally resolve within 2-5 days [7]. Atypical

manifestations of typhoid fever include isolated severe headaches that may mimic meningitis, acute lobar pneumonia, isolated arthralgias, urinary symptoms, severe jaundice, or fever alone. Some patients, especially in India and Africa, present primarily with neurologic manifestations such as delirium or, in extremely rare cases, parkinsonian symptoms or Guillain-Barré syndrome. Other unusual complications include pancreatitis [8].

The Jarisch-Herxheimer reaction is classically associated with penicillin treatment of syphilis. Similar reactions have also been reported to occur with typhoid fever [9]. In our case had gastrointestinal bleeding and Jarisch-Herxheimer which very unusual complication seen in enteric fever related to drug.

CONCLUSION

The present report emphasizes the rising incidence of complicated enteric fever in developing countries. Prompt recognition together with specific antimicrobial treatment can result in complete recovery of such patients.

REFERENCES

1. Lesser CF, Miller SI; Salmonellosis. In Braunwald E, Fauci AS, Kasper DK, Hauser SL, Longo DL, Jameson JL editors; .Harrison's Principles of Internal Medicine, 15th edition, New York, McGraw Hill, 2001: 970-975.
2. Nakaya Y, Shiota S, Sakamoto K, Iwase A, Aoki S, Matsuoka R *et al.*; Double infection with *Giardia lamblia* and *Salmonella paratyphi A* associated with acute renal failure. *Intern Med.*, 1998; 37: 489-492.
3. Kelkar PN, James E; Article on typhoid fever. *Japi India*, 1977; 45: 37-48.
4. Cohen JI, Bartlett JA, Corey GR; Extra-intestinal manifestation of salmonella infections. *Medicine*, 1987; 66: 349.
5. Forsyth JRL; Typhoid and paratyphoid. In Collier L, Balows A, Sussman M editors; Topley and Wilson's Microbiology and Microbial infections, 9th edition, volume 3, London, Arnold, 1998: 450-478.
6. Bhutta ZA; The challenge of multidrug resistant typhoid in childhood: Current status and prospects for the future. *Indian Pediatr.*, 1999; 36: 129-131.
7. Christie AB; *Infectious Diseases: Epidemiology and Clinical Practice*. 4th edition, Edinburgh, Scotland: Churchill Livingstone, 1987.
8. Hermans P, Gerard M, van Laethem Y, de Wit S, Clumeck N; Pancreatic disturbances and typhoid fever. *Scand J Infect Dis.*, 1991; 23(2): 201-205.
9. Parker K, Brunton L; Sanford GL, Blumenthal D, Buxton I; Protein synthesis inhibitors and miscellaneous antibacterial agents. *Goodman & Gilman's manual of pharmacology and therapeutics*. McGraw-Hill Medical, 2008: 768.