

## Typhoid Fever Complicated By Ileal Perforation: A Case Report

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### Abstract

Intestinal perforation is one of the most dangerous complications of typhoid fever and it needs urgent hospitalization, diagnosis, and surgical management to reduce morbidity and prevent mortality. Here, we report a case of typhoidal intestinal perforation in a 19-year-old young female. The patient presented with a high-grade fever, lower abdominal pain, and vomiting during admission to the Emergency Building of Tertiary Care Hospital. Physical examination and pre-operative investigations of the patient suggested a likely diagnosis of intestinal perforation, and the patient was transferred to the New Surgery Building for surgical management. A positive blood culture, intraoperative findings, and histopathology of an intestinal biopsy confirmed ileal perforation due to typhoid fever. This case report highlights the need for prompt diagnosis and appropriate pre- and post-operative management of patients who appear with the symptoms of typhoidal intestinal perforation.

**Keywords:** Typhoid fever; ileal perforation; Complication.

### Introduction

Intestinal perforation is a common cause of peritonitis necessitating emergency surgical intervention. Perforation of the bowel from typhoid perforation is a serious abdominal complication. The prevalence of typhoid fever is gradually decreasing worldwide; however, it remains endemic in the Indian subcontinent. [1] Although, intestinal hemorrhage is the most common complication of typhoid fever intestinal perforation continues to be the most frequent cause of its high morbidity and mortality. [2] In general, hemorrhage and perforation occur in the terminal ileum secondary to necrosis of Peyer's patches at 2-3 weeks after the onset of the disease. Perforation of the terminal ileum is a cause for acute obscure peritonitis, heralded by exacerbation of abdominal pain associated with tenderness, rigidity, and guarding, most pronounced over the right iliac fossa. However, for many patients in a severe toxic state, there may be obscured clinical features with resultant delays in diagnosis and adequate surgical intervention. [3] While early surgical procedures are regarded as definitive treatments along with pre-operative resuscitation and post-operative intensive care, the methods that should be used in surgery are still contentious. In the present case report, we present a rare case of typhoidal intestinal perforation in a 19-year-old young female. To the best of our knowledge, this is the leading fatal complication caused by typhoid fever.

### Case-Report

A 19-year-old female patient was admitted to the Emergency Department outpatient department with complaints of hyperpyrexia for 2 days, severe abdominal pain, and vomiting for 4 days. He did

not receive any treatment for 2 weeks. There was no history of chronic abdominal pain or analgesic abuse. There was a history suggestive of previous typhoid infection twice in the last year. On physical examination, the abdomen was tense, tender, and distended with absent bowel sound. Both guarding and rigidity were present all over the abdomen. On digital rectal examination, there was an empty rectum. An upright abdominal radiograph showed free gas under both domes of the diaphragm. Laboratory examinations gave the following results: Haematocrit 35%, white blood cell count 13500/cm<sup>3</sup>, platelets 218 000/cm<sup>3</sup>, sodium 140 mEq/L, potassium 3.88 mEq/L, blood urea 32 mg/dl, S. Creatinine 1.3 mg/dl, blood glucose 116 mg/dl, and total bilirubin of 2.4 mg/dl. Diagnostic tests for hepatitis B, hepatitis C, and HIV were negative. The patient was Widal positive (Titer of > 1:160). An abdominal ultrasound showed features consistent with intestinal perforation showing both free fluid and free air with fine floating echoes in the peritoneal cavity. However, blood culture was negative for Salmonella typhi in the patient.

The patient was resuscitated with intravenous fluid and commenced on antibiotics ceftriaxone and metronidazole pre-operatively. Nasogastric tube insertion for decompression and urethral catheterization was carried out to monitor urine output. Exploratory laparotomy was performed through a midline incision. Thorough peritoneal lavage was carried out with normal saline. Resection of the perforated intestinal segment with ileo-transverse anastomosis (side-to-side) with proximal loop ileostomy was performed under General Anaesthesia. Abdominal tube drain Fr. 30 was put in the pelvis after thorough peritoneal lavage using the normal saline and the abdomen

was closed in layers. The patient was kept on Intravenous fluids and nil orally for 3 days. Broad-spectrum antibiotic cephalosporin with metronidazole and fluoroquinolone were given for 7 days. On the 3rd post-operative day, the Nasogastric tube and abdominal drain tube were removed and on physical examination, a decubitus ulcer was noted at the sacrum region. Back care and proper positioning were provided and, on the 7th, post-operative day, Ileostomy started functioning. The patient was discharged on 11th POD with oral fluoroquinolone for 7 days.

## Discussion

Typhoid ileal perforation is a very severe condition and it requires adequate pre-operative management associating aggressive resuscitation with antibiotic therapy. In the literature by Talwar S. et. al., it is usually advocated that the last 60 cm of the ileum presents a high concentration of Peyer's patches whose infection is a source of intestinal perforation. [3]

Typhoid fever with perforation is best managed by early surgical intervention. Traditionally, diagnosis is mainly based on clinical history and examination, X-ray abdomen, and ultrasound abdomen.

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Atamanalp SS et. al., reported that early and appropriate surgical intervention with effective pre -and post-operative care may improve survival in TIP. [4]

## Conclusion

Typhoid fever and its consequences remain a major health concern despite advancements in science, particularly in underdeveloped nations. Intestinal perforation requires early surgical surgery that is suitable, good pre-operative resuscitation, post-operative care, and the use of the right antibiotics. Since our research shows no evidence of weakened patient immunity, elevated bacterial virulence is likely the source of this typhoid enteritis consequence. The prevention of typhoid fever by providing safe drinking water and improved sanitation techniques for the entire global society is the key to enhanced survival in this fatal disease, not better surgery or improved perioperative care.

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