

ORIGINAL ARTICLE

Post-Operative Complications of Ileal Perforation: Experienced of 100 Patients in Bangladesh

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Abstract

Background: Ileal perforation is a serious surgical emergency. **Objective:** The objective of the present study was to see the post-operative complications of ileal perforation patients. **Methodology:** This cross sectional study was conducted in the Department of Surgery at Dhaka Medical College Hospital, Dhaka from September 2000 to December 2002 for period of 2 years and 3 months. All the patients presented with ileal perforation at any age with both sexes were included in this study. Patients were selected consecutively and the patients who showed ileal perforation at laparotomy were included in this study. A standard protocol was filled up for every patient. Preoperative diagnosis was based on detailed history, complete physical examinations supported by plain x-ray abdomen in erect posture including both domes of diaphragm. After immediate resuscitation surgical treatment was undertaken as soon as possible following admission in all cases. Surgical procedures included simple repair, wedge resection and repair, resection and anastomosis, right hemi colectomy and temporary ileostomy. Histopathological examination of tissues from the margin of perforation and mesenteric lymph nodes were carried out in almost all cases. **Result:** Out of 100 patients complications were observed in 53 patients. Thus, incidence of complication was 53%. In 47 patients post-operative period was uneventful. Most of the complications were observed around 3rd to 5th post-operative day. Wound infection was the most common complication and noted in 4th to 7th postoperative day. Respiratory complications were also common and mostly observed on 2nd postoperative day. All these patients presented with loose motion and lower abdominal pain on 3rd postoperative day. Faecal fistula developed on 3rd to 5th postoperative day in 3 cases resulting from disruption of simple repair in 2 cases and anastomotic leakage in 1 case who later died complicated by septicemia and multi-organ failure. **Conclusion:** Wound infection is the most common post-operative complication followed by septicemia and respiratory complication. [*Journal of Current and Advance Medical Research 2016;3(1):2-5*]

Keywords: ileal perforation; post-operative; complications

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Introduction

Ileal perforation is one of the common surgical emergencies¹. Mortality and morbidity still remain high in spite of superior antibiotics, safe anesthesia and surgical procedure. Most of the patient with ileal perforation gets into hospital late with already debilitated condition; so complications like wound sepsis, residual abscess, paralytic ileus and septicemia are frequently encountered in postoperative period with associated gross fluid and electrolyte imbalance; thus influencing the overall outcome².

Perforation can occur anywhere in the gastrointestinal tract starting from oesophagus to the rectum³. Ileal perforation peritonitis is a common surgical emergency in the Indian subcontinent and in tropical countries. It is reported to constitute the fifth common cause of abdominal emergencies due to high incidence of enteric fever and tuberculosis in these regions⁴. Despite the availability of modern diagnostic facilities and advances in treatment regimes, this disease has an abrupt onset and a rapid downhill course with a high mortality if not treated⁵. Perforation of terminal ileum is a cause for obscure peritonitis, heralded by exacerbation of abdominal pain associated with tenderness, rigidity and guarding, most pronounced over 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 intervention⁶. Therefore, the present study was undertaken to see the post-operative complications of terminal ileal perforation.

Methodology

This cross sectional study was conducted in the Department of Surgery at Dhaka Medical College Hospital, Dhaka from September 2000 to December 2002 for period of 2 years and 3 months. All the patients presented with ileal perforation at any age with both sexes were included in this study. Patients were selected consecutively and the patients who showed ileal perforation at laparotomy were included in this study. A standard protocol was filled up for every patient. Preoperative diagnosis was based on detailed history, complete physical examinations supported by plain x-ray abdomen in erect posture including both domes of diaphragm. After immediate resuscitation surgical treatment was undertaken as soon as possible following admission in all cases. Surgical procedures included

simple repair, wedge resection and repair, resection and anastomosis, right hemi colectomy and temporary ileostomy. Histopathological examination of tissues from the margin of perforation and mesenteric lymph nodes were carried out in almost all cases. Per-operative findings and histopathological reports and laboratory investigations were correlated with preoperative findings to establish the diagnosis of ileal perforation and to elucidate an etiology. In this study, ileal perforation due to typhoid, TB, trauma, non-specific inflammation were included. Histopathological studies were carried out in the pathological laboratory of Dhaka Medical College. Hematological, bacteriological, serological tests were carried out in the laboratories of Dhaka Medical college Hospital, Dhaka. A meticulous postoperative care and follow up were done in all cases during their stay in hospital and complications were observed. Those patients who developed postoperative complications remained in the hospital as long as necessary and relevant investigations were done and proper management were undertaken. All patients received specific treatment for underlying diseases. In this study we have only considered early postoperative complications which included wound infection and dehiscence, respiratory complications, septicemia, residual abscess, paralytic Ileus, burst abdomen and faecal fistula. For the purpose detecting factors predisposing to complications we have considered relationship between postoperative complications and number of variables of which delayed presentation and association with typhoid fever have been emphasized.

Result

Out of 100 patients complications were observed in 53 patients. Thus, incidence of complication was 53%. In 47 patients post operative period was uneventful. Most of the complications were observed around 3rd to 5th post operative day. All types of complications were associated with typhoid perforation with higher incidence in comparison to other causes of perforation. Wound infection was the most common complication and noted in 4th to 7th postoperative day. Culture of wound swab was done in 22 cases. Daily dressing was done in all cases. In 16 cases wound infection was severe enough to require secondary suture at a later date. Septicemia complicated the clinical picture in 24 patients out of 100 and mostly observed on 1st to 3rd postoperative day. In spite of appropriate

management and close monitoring the condition was so severe in 12 patients who later succumbed. Respiratory complications were also common and mostly observed on 2nd postoperative day.

Table 1: List of Post-Operative Complications

Complications	Frequency	Percentage
Wound Infection	26	27.95
Septicemia	24	24.0
Respiratory Complication	18	18.0
Paralytic Ileus	5	5.0
Residual Abscess	4	4.0
Burst Abdomen	4	4.0
Faecal Fistula	3	3.0

*More than one complication was associated.

Mild to moderate types, manifested by post-operative cough, mild fever, and pulmonary crepitation were observed in 16 cases and improved with conservative treatment. The condition of the 2 patients was severe, one developed acute respiratory distress syndrome (ARDS) and other elderly patient with preexisting bronchial asthma developed. Paralytic ileus was developed in 5 cases who reported to hospital more than 3 days of perforation with abdominal distension and had purulent fluid in peritoneal cavity. These patients were improved with conservative treatment and oral resumption in these cases was delayed. 4 cases developed residual abscess. All these patients presented with loose motion and lower abdominal pain on 3rd postoperative day.

Table 2: Shows association of complications with causes.

Complications	Typhoid	TB	Trauma	Non-specific
Wound infection	21	2	1	2
Septicaemia	22	0	1	1
Resp. complic.	15	1	1	1
Paralytic ileus	2	1	0	2
Residual abscess	4	0	0	0
Burst abdomen	4	0	0	0
Faecal fistula	2	1	0	0

Presentation of all of them was delayed and at laparotomy grossly contaminated purulent fluid was found in peritoneal cavity. One of them was associated with burst abdomen & re-exploration was done and other 3 patients were treated conservatively. All of them discharged after a long hospital stay. Burst abdomen developed in 4 patients on 3th to 5th postoperative day. All cases required repair under G/A and had prolonged

hospital stay before discharge. Faecal fistula developed on 3^d to 5^h postoperative day in 3 cases resulting from disruption of simple repair in 2 cases and anastomotic leakage in 1 case who later died complicated by septicemia and multi-organ failure. 2 survived patients were associated with complete wound dehiscence and re-exploration was carried out. Peritoneal toileting with proximal ileostomy and mucus fistula was done.

Discussion

Peritonitis resulting from ileal perforation is one of the common surgical emergencies in Bangladesh and a number of complications are frequently encountered in early postoperative period resulting in poor prognosis. Postoperative complications result from the primary disease, the operation or unrelated factors⁷. Incidence of postoperative complications varies according to the duration of symptoms, time-lapse hospitalization, preoperative resuscitation, nature of pathology, operative technique and postoperative care⁸.

The present study comprises of 100 cases. All of them were underwent surgical intervention. Postoperative complications were observed in 53 patients. Early postoperative complications were considered in this study. Most prevailing complications were wound infection and dehiscence, respiratory complications, septicaemia, paralytic ileus, residual abscess and faecal fistula. All the data, collected from the observation of the patients of this series have presented and compared with similar data reported in literature in this chapter.

Good postoperative care must include repeated evaluation of the patient by the operating surgeon and other professionals responsible for patient care. Overall complications rate in this series was 53%. Complications occurred as early as on 1st postoperative day and delayed up to 9th postoperative day. Most of the complications observed around 3rd to 5th postoperative day. Wound infection was most common complications, next to it septicemia and respiratory complications. However, 27.95% of the patients who survived more than 3 some degree of wound infection, of them 17.20% suffered from major wound infection requiring secondary suture. Wound infection was noted in patients who came after 24 hours of perforation associated with gross peritoneal soiling. Anaemia, jaundice, poor nutritional status, postoperative abdominal distension, persistent cough was risk factors. As compare to the previous

four studies in Bangladeshi, the current study shows a substantial drop in the rate of postoperative wound infection and dehiscence. This may be due to the early institution of preoperative resuscitation, perioperative intravenous broad spectrum newer and more efficient antibiotics⁹. According to the classification by Winzel et al¹⁰ wounds in ileal perforation with generalized peritonitis may be classified as dirty wounds. In a study it has been shown that an infection rate of 30.0% to 40.0% in dirty wounds was reported. The incidence of infection in this study is a bit lower than those of other study¹¹.

Incidence of septicemia was 24% in this study. This finding is much higher than that of other studies¹². In this series predisposing factors were tried to find out-delayed presentation i.e. after 48 hours of onset of acute abdominal symptoms, associated with gross peritoneal contamination, presentation with shock, prolonged history of typhoid fever i.e. more than 2 weeks and poor nutritional status. So adequate preoperative resuscitation and early recognition in postoperative period and effective treatment of these patients are essential. Fluid, electrolyte and acid base balance, broad spectrum antibiotics, careful and frequent monitoring of vital signs, and urine output, nutritional support, oxygen therapy in some cases and even ventilator support when demanded- these are important components of the post operative care of these patients.

Faecal fistula was encountered in 3% cases only, which is much lower than those in other studies¹²⁻¹⁵. This low incidence in this series was probably due to alternative surgical procedure like temporary ileostomy. Fistula following repair of ileal perforation may be due to perforation or disruption of repair or anastomosis. Intestinal fluid escaping through the fistula or wound may severely excoriate the skin and abdominal wall tissues. Fluid and electrolyte losses may be severe. Persistent sepsis and difficulty in nourishing the patient contribute to rapid weight loss¹⁶. All these may contribute to multiple organ failure and death unless effective therapy is institute promptly. Essentials of treatment of faecal fistula include fluid and electrolyte resuscitation, control of sepsis, protection of skin, and maintenance of adequate nutrition and surgical intervention where indicated. In this study incidence of overall complication was much lower than those of other studies except septicemia. Among the above complications 12 patients from septicemia, 2 patients from respiratory complications and one patient from faecalis fistula lead to fatality.

Conclusion

In conclusion wound infection is the most common post-operative complication followed by septicemia and respiratory complication. Most of these measures are beyond the reach of the majority of hospitals in this country. So improvement in intensive care unit services is suggested for further reduction of morbidity and mortality.

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