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Study of Clinical Profile, Prognostic Factors and its Relation with Outcome in Patientss undergoing Emergency Laparotomy for Ileal Perforation Peritonitis

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Abstract: ***Background: Peritonitis due to perforation of the gastrointestinal tract is the most common surgical emergency all over the world. 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 obscure clinical features with resultant delays in diagnosis and prompt surgical intervention. Method: Study was carried out in the department of general surgery, Swaroop rani Nehru hospital,associated with MLN medical college Prayagraj, from Dec 2020- Dec 2021 of was carried out in the department of general surgery. Result: In present study, 37.14% of patients did not have any morbidity. 14.29% of patients had wound dehiscence and wound infection each followed by basal atelectasis (12.86%), dyselectrolytemia (10.00%) and anastomotic leak (7.14%). Acute respiratory distress syndrome, deep vein thrombosis and pulmonary embolism was seen in only 1 out of 70 patients (1.43%) each.Majority (81.43%) of patients survived. Only 13 out of 70 patients (18.57%) died. Conclusion: Procedure done (Resection and anastomosis) significantly influenced the mortality in patients with ileal perforation as compared with other procedures. More than half of the patients had developed morbidity, wound dehiscence and wound infection were the commonest followed by basal atelectasis, dyselectrolytemia and anastomotic leak. Majority of the patients have survived, MODS being most common cause of death, followed by sepsis and acute respiratory distress syndrome.***

Keywords: Ileal perforation peritonitis, prognostic factors, outcomes, procedure done, morbidity, mortality

1. Introduction

Peritonitis due to perforation of the gastrointestinal tract is the most common surgical emergency all over the world[1]. The most common cause of perforation peritonitis was perforated duodenal ulcer, followed by small bowel typhoid perforation typhoid. The majority of patients present late, with purulent peritonitis and septicemia[2]. An ileal perforation is a very common cause of significant discomfort for both the patient and the treating surgeon in operating rooms around the world. A decision to either repair and primarily restore bowel continuity or to divert faeces through a loop ileostomy is one that has profound impact on the life of both the patient and the treating surgeon. Faecal diversion also enables early resumption of oral feeds which can hasten the recovery of the patient[3].

Aim and Objective

- To study the various clinical profile and the mode of presentation in patients undergoing emergency laparotomies due to ileal perforations.
- To study various prognostic factors and its relations with outcome in patients with perforation peritonitis .
- To study the different modes of surgical management of patients admitted with ileal perforation.
- To study the various complications and outcome of these patients.

2. Materials and Method

Study was carried out in the department of general surgery, Swaroop rani Nehru hospital,associated with MLN medical college Prayagraj, from Dec 2020- Dec 2021 of was carried out in the department of general surgery fulfilling the below mentioned criteria.

Inclusion Criteria:

- All cases of ileal perforation of age > 14 years.
- Traumatic Ileal perforation associated with solid organ injuries
- Ileal perforation associated with Extra-Abdominal injuries

Exclusion Criteria:

- Jejunal perforation,
- Gastric & duodenal perforation,
- Appendicular, Caecal, Colonic perforation
- All cases of ileal perforation of age < 14 years
- Ileal perforation treated conservatively.

3. Observations and Results

Table 1: Distribution of outcome of study subjects

No morbidity	26	37.14%
Acute respiratory distress syndrome	1	1.43%
Anastomotic leak	5	7.14%
Basal atelectasis	9	12.86%
Deep vein thrombosis	1	1.43%
Dyselectrolytemia	7	10.00%
Pulmonary embolism	1	1.43%
Wound dehiscence	10	14.29%
Wound infection	10	14.29%
Mortality		
Died	13	18.57%
Survived	57	81.43%

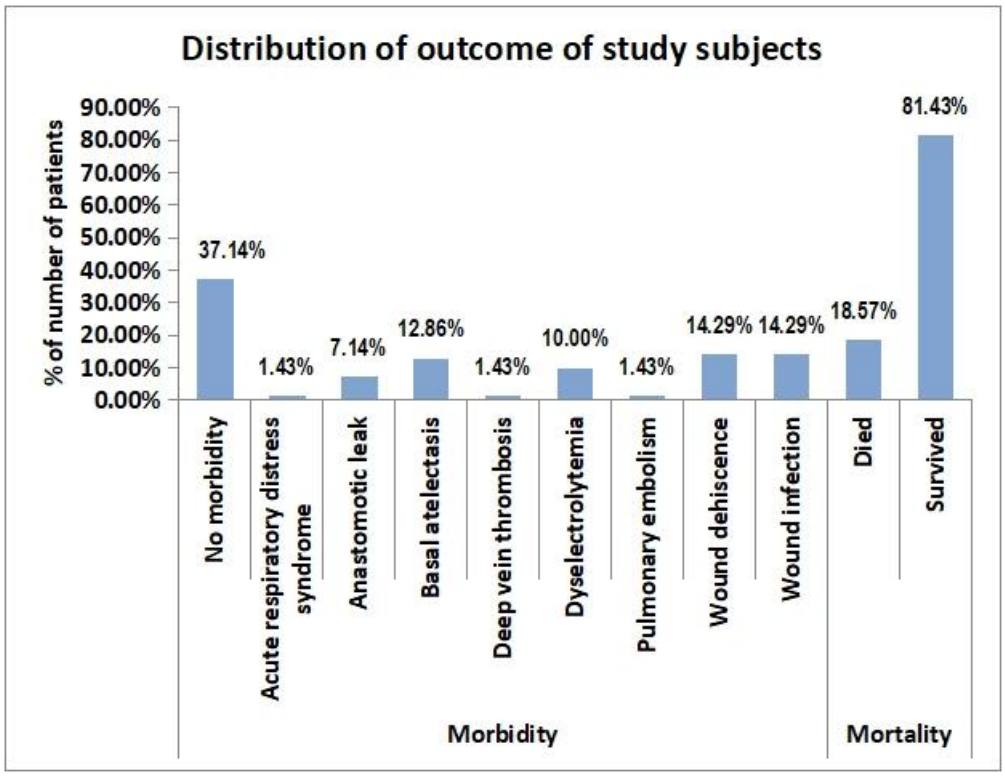

Figure 1: Distribution of outcome of study subjects

Table 2: Distribution of cause of death of study subjects

Cause of death	Frequency	Percentage
Acute respiratory distress syndrome	2	15.38%
Multi organ dysfunction syndrome	7	53.85%
Sepsis	4	30.77%
Total	13	100.00%

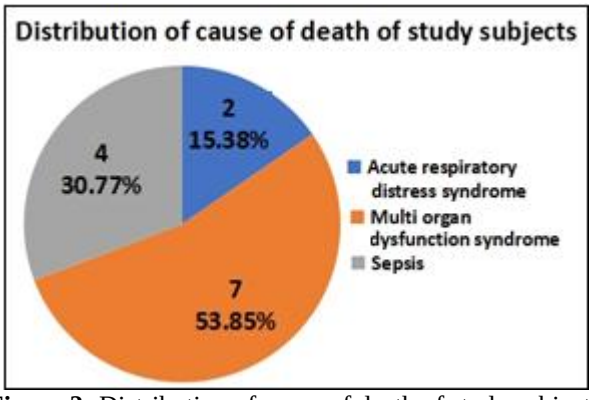

Figure 2: Distribution of cause of death of study subjects

In this study, in majority (53.85%) of patients, cause of death was multi organ dysfunction syndrome followed by sepsis (30.77%). Cause of death was acute respiratory distress syndrome in only 2 out of 13 patients (15.38%).

4. Discussion

In this study 37.14% of the individuals in this research experienced no morbidity. 14.29% of patients had wound dehiscence and infection, followed by basal atelectasis (12.86%), dyselectrolytemia (10%), and anastomotic leak (10%) (7.14%). Acute respiratory distress syndrome, deep vein thrombosis, or pulmonary embolism occurred in just one out of every 70 patients (1.43%). The vast majority of patients (81.43%) survived. Out of a total of 70 patients, only 13 (18.57%) died.In majority (53.85%) of patients, cause of death was multi organ dysfunction syndrome followed by sepsis (30.77%). Cause of death was acute respiratory distress syndrome in only 2 out of 13 patients (15.38%).

According to **Rajandeep et al**[4] the overall morbidity being 58% and most common complication being wound infection followed by dyselectrolemia and mortality rate being 7 percent cause of death being sepsis followed by respiratory distress. **Adesunkanmi AR,et al**[5] the mortality rate being 28% and wound infection followed by wound dehiscence and intraabdominal abscess being most common morbidity.

Bupendrakumar jain at el[6]has shown over all mortality rate of 16.6 and most common morbidity being wound nfection and wound dehiscence . all these studies are comparable with the outcome of our study, overall mortality is 18.57% and morbidity rate is 62.86% and wound infection followed by wound dehiscence and dyselectrolemia. When comparing our study with other studies it is evident that primary repair followed by ileostomy followed by resection and anastomosis has been done,on the other hand in our study most common procedure done is resection and anastomosis, ileostomy followed by primary closure.

Procedure of choice varied with these criteria in different study. when comparing with outcome proportion of patients with procedure done resection anastomosis was significantly died compared to survived (p value=0.037). **Roberto Caronna et al**[7] showed Resection and anastomosis shows greater morbidity and mortality than primary repair.**Wani RA et al**[8] Resection anastomosis carried a high morbidity and mortality. Ileostomy would have been ideal but its maintainence in our underprivileged and the need for second operation discouraged us from its frequent use. In such

circumstances end to side ileotransverse anastomosis with closure of distal stump is a better procedure.

Our study has concluded that important factors influencing the outcome of patients undergoing laprotomy for ileal perforation are age > 50yrs, shock, leucocytosis, hypoalbuminemia, lag period, procedure done is resection and anatomosis, and most common morbidity being wound infection and wound dehiscence and overall moratlity rate is 18.57% multiorgan dysfunction syndrome followed by sepsis and ARDS is the cause for death.

5. Conclusion

Most of patient had delayed surgery with lag period of > 72hrs due to delayed hospital visit.

Age (> 50yrs), tachycardia (>100/min), Low albumin (< 3.5gm/dl) is associated with significant morbidity. Morbidity and mortality was significantly influenced by Shock (<=90mmHg), Leukocytosis (>11000) and a Lag period (>72hrs) . Resection and anastomosis, resection anastomosis with covering stoma were the procedures done in majority of the patient. Procedure done (Resection and anastomosis) significantly influenced the mortality in patients with ileal perforation as compared with other procedures .More than half of the patients had developed morbidity, wound dehiscence and wound infection were the commonest followed by basal atelectasis, dyselectrolytemia and anastomotic leak.Majority of the patients have survived, MODS being most common cause of death, followed by sepsis and acute respiratory distress syndrome.

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