

To evaluate the role of various clinical and diagnostic procedure in management of caecal perforationPratik Solanki¹¹Senior Resident, Dept. of General Surgery, AIIMS, Rishikesh, Uttarakhand

Received: 05-08-2020 / Revised: 08-10-2020 / Accepted: 23-10-2020

Abstract

Background & Method: The study was conducted in the Department of General Surgery, Maharaja Yashwant Rao Holkar Hospital and Mahatma Gandhi Memorial Medical College, Indore. Fifty patients admitted to surgical emergency with acute abdomen were selected for the study. There was not any preoperative selection criteria; the cases which were proven to be cases of perforation peritonitis on the basis of investigations and clinical examination were taken for study and considered for comparative study if laparotomy diagnosed to be case of caecal perforation.

Result: Fifty patients with caecal perforation were studied. Caecal perforation was commonly observed in 20-30 years. 40 (80%) males were found and the 10 females (20%). Male preponderance with M:F ratio 4:1. Statistical significance was found between group A and group B in septicaemia with p value=0.017. **Conclusion:** Right hemicolectomy with ileotransverse anastomosis is most common surgery performed for cases of traumatic perforation. Right hemicolectomy with ileotransverse anastomosis in cases of traumatic caecal perforation plays an important role in reducing the incidence of complications like wound infection, wound dehiscences, ileostomy and colostomy related complications like weight loss and electrolyte imbalance. This helps reduce mortality in patients undergoing surgery for caecal perforations. Ileostomy-specific complications, however, increase the postoperative stay of the patient. These complications can be reduced, if not outright eliminated, by proper fashioning of the stoma and provision of adequate nursing care of the stoma.

Keywords: Clinical, Diagnostic & Caecal Perforation.

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Introduction

Gastrointestinal perforations have been a surgical problem since the time immortal. Scientist have found evidence of Gastrointestinal perforations in Egyptian mummies. Perforation is said to occur once a pathology which extend through the full thickness of the hollow viscous leading to peritoneal contamination with intra luminal contents. Perforation can occur anywhere in the gastrointestinal tract starting from esophagus to the rectum. Perforation of colon is associated with significant morbidity and mortality[1]. Perforation of caecum is a challenging surgical problem Perforation from different causes present individual problems and demand specific management[2]. Thus a perforated caecum resulting from an obstructing carcinoma of sigmoid involves in more complicated management than a simple stab wound of caecum

Perforation of healthy caecum is an uncommon condition that is clinically difficult to diagnose and differentiate from other acute pathological condition.

Because the literature does not show a comprehensive classification for the etiology of perforation, our study of this problem suggest four main etiologic groups – traumatic, obstruction, inflammatory disease & tumors[3].

Material & Method

The study was conducted in the Department of General Surgery, Maharaja Yashwant Rao Holkar Hospital and Mahatma Gandhi Memorial Medical College, Indore, with a sample size of 50 patients for over the period of Eighteen months from January 2015 to June 2016.

Fifty patients admitted to surgical emergency with acute abdomen were selected for the study. There was not any preoperative selection criteria; the cases which were proven to be cases of perforation peritonitis on the basis of investigations and clinical examination were taken for study and considered for comparative study if laparotomy diagnosed to be case of caecal perforation.

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These patients were taken up for emergency surgery after resuscitation, and an informed consent was taken. The antibiotics were given in all groups after admission to hospital and before surgery with 3rd generation cephalosporin (cefotaxime, ceftazidime, ceftriaxone, etc.), Amikacin and metronidazole.

The surgical management was done as primary repair with omental patch, primary repair with defunctioning loop ileostomy, Right hemicolectomy with ileotransverse anastomosis, Right hemicolectomy with double barrel ileo-transverse colostomy depending on pathology. Comparative study was done between group A (Right hemicolectomy with ileotransverse anastomosis) and group B (primary repair with omental patch, primary repair with defunctioning loop

ileostomy, Right hemicolectomy with double barrel ileo-transverse colostomy).

All operations were done by group of three experienced surgeons and they all performed the same technique. All the procedures were carried with hand sewn method. Primary closure was done in two layers, the inner layer closed with 3-0 poly glycolic acid (vicryl) and outer layer closed with silk 3-0. Anastomosis was done with 3-0 poly glycolic acid (vicryl).

Postoperative complications in each group like wound infection, wound dehiscence, intra abdominal abscess, faecal fistula, peritonitis, septicaemia, ileostomy related complications, paralytic ileus and death and so forth are evaluated.

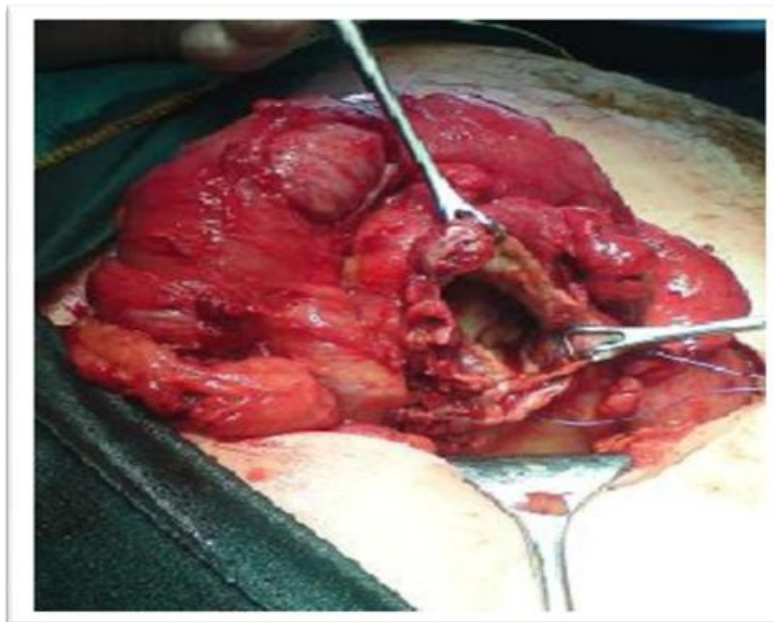


Figure 1: Large Caecal Perforation

Results

Table 1: Age Distribution of Caecal Perforation

Age	No.	Percentage
01-10	05	10%
11-20	06	12%
21-30	19	38%
31-40	09	18%
41-50	05	10%
More than 50	06	12%

Fifty patients with caecal perforation were studied. Caecal perforation was commonly observed in 20-30 years.

Table 2: Sex Distribution of Caecal Perforation

Sex	No.	Percentage
Male	40	80%
Female	10	20%

Table shows the 40 (80%) males were found and the 10 females (20%). Male preponderance with M:F ratio 4:1.

Table 3: Comparison between Group A & Group B for Wound Dehiscences.

Statistical significance was found between group A and group B with p value = 0.020.

Operative procedure	Wound Dehiscences
Primary repair with omental patch	1
Primary repair with defunctioning ileostomy	3
Right hemicolectomy with ileo-transverse colostomy	3
Right hemicolectomy with ileo-transverse anastomosis	1

Table 4:

reatment category	Present	Absent	Total
A	1	24	25
B	7	18	25
Total	8	42	50

Chi Square value =5.36. p value = 0.020.

Table 5: Comparison between Group A & Group B For Septicaemia.

Statistical significance was found between group A and group B in septicaemia with p value=0.017.

Operative procedure	Septicaemia
Primary repair with omental patch	2
Primary repair with defunctioning ileostomy	3
Right hemicolectomy with ileo-transverse colostomy	4
Right hemicolectomy with ileo-transverse anastomosis	2

Table 6:

reatment category	Present	Absent	Total
A	2	23	25
B	9	16	25
Total	11	39	50

Chi Square value =5.71 p value =0.017

Table 7: Comparison between Group A & Group B for Weight Loss.

Statistical significance with p value 0.036 was found in weight loss.

Operative procedure	Weight Loss
Primary repair with omental patch	0
Primary repair with defunctioning ileostomy	8
Right hemicolectomy with ileo-transverse colostomy	4
Right hemicolectomy with ileo-transverse anastomosis	5

Table 8:

reatment category	Present	Absent	Total
A	5	20	25
B	12	13	25
Total	17	33	50

Chi Square value = 4.78 p value = 0.036

Table 9: Published Etiology of Traumatic Cases of Caecal Perporation

TRAUMATIC	CASES	DIED
GUNSHOT WOUNDS	14	3
STAB WOUNDS	3	0
OPERATIVE WOUNDS	4	0
FOREIGN BODY (TOOTH PICK)	1	0
TOTAL	22	3

Discussion

22 cases of traumatic caecal perforation were studied in the department of surgery, college of medical evangelists, Los Angeles County General Hospital in 1955. Traumatic perforation were caused by gunshot and stab wounds, operative and foreign body injury. Gunshot wounds predominated and produced all the death in this group. The more serious trauma and extensive complications found in gunshot wound accounted for the mortality[4].

From the study of this cases it was evident that early operation is essential for the control of shock and hemorrhage.

In Our Study 34 cases of traumatic caecal perforation were studied Most of the cases were of assault caused by multiple stab injury over body. The usual clinical picture was that of young adult recently stabbed, who presented the typical signs and symptoms of surgical abdomen[5]. Free air was noted in the abdomen 20% of those patients roentgenografed. The average duration of perforation prior to surgical intervention was between 4 and 5 hours. Right hemicolectomy with ileo-transverse anastomosis was done in maximum cases[6]. Two deaths occurred in traumatic caecal perforation as it had associated severe injury involving pelvis, scrotum, small bowel injury, chest trauma and other solid organ injury associated with severe haemorrhage[7].

Iatrogenic caecal perforation is rare, but a serious complication associated with significant morbidity and mortality[8]. The risk colonic perforation after diagnostic colonoscopy is reported as 0.03%. In a recently published series of 110785 diagnostic and therapeutic colonoscopy procedures, a total of 14 incidence (0.012%) of colonic perforation were reported.

Conclusion

Right hemicolectomy with ileotransverse anastomosis is most common surgery performed for cases of traumatic perforation. Right hemicolectomy with ileotransverse anastomosis in cases of traumatic caecal

perforation plays an important role in reducing the incidence of complications like wound infection, wound dehiscences, ileostomy and colostomy related complications like weight loss and electrolyte imbalance

This helps reduce mortality in patients undergoing surgery for caecal perforations. Ileostomy-specific complications, however, increase the postoperative stay of the patient. These complications can be reduced, if not outright eliminated, by proper fashioning of the stoma and provision of adequate nursing care of the stoma.

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Conflict of Interest: Nil

Source of support: Nil