Original Article

Current Pattern of Acute Peritonitis in Adult

Abdul Ghani\(^1\), Waqar Ahmed\(^2\), F.U. Baqai\(^3\)

Department of surgery Baqai Medical University Hospital, Karachi, from May 2007 to May 2012.

Abstract

The studies were undertaken to evaluate the current pattern of Acute Peritonitis in adult. This study included consecutive pattern of peritonitis studied in term of clinical assessment, causes, site of perforation and surgical treatment. All patients were resuscitated and underwent emergency laparotomy. On laparotomy cause of peritonitis was found and treated.

A total of 80 surgically treated cases of Acute peritonitis were included. Out of total, all patients presented with acute peritonitis. The age was from 15 to 75 years, with male to female patients ratio of 7:1. In our study, gastric perforation was found in one (1.25%) patient and duodenal perforation in 26 (32.5%) patients. The typhoid perforation was found in 38 (47.5%) patients and TB perforation in terminal ileum was found in 4 (5%) patients. In one patient (1.25%) small intestinal perforation due to foreign body (stones) was managed. There were 8(10%) cases of perforated appendix in our study and 2 (2.5%) patient had caecal perforation. Highest numbers of perforation have seen in ileum, duodenum, appendix, caecum and stomach. The most common cause of peritonitis was found to be ileal perforation and followed by perforation. The pattern of peritonitis is variable, depending upon eating habits and socioeconomical conditions.

Keywords. Acute secondary peritonitis, trachobezoar, stones in small intestine.

INTRODUCTION

Peritonitis is the most common surgical life-threatening emergency all over the world, which requires urgent surgical intervention\(^4\). The spectrum of etiology of peritonitis may differ from the other studies. Majority of the patient present late with septicemia and shock, therefore it carries high morbidity and mortality\(^18,19-23\). Objective of this study is to highlight current pattern of acute peritonitis in our tertiary care setup.

MATERIAL AND METHODS.

In this study consecutive 80 patients included, who presented with acute secondary peritonitis, admitted and managed surgically, from May 2007 to May 2012 in the Department of Surgery Baqai Medical University Karachi.

INCLUSION CRITERIA

All Types of acute peritonitis due to perforation of gastrointestinal tract.

EXCLUSION CRITERIA

1. Peritonitis due to trauma, gunshot injury
2. Primary peritonitis
3. Post operative peritonitis due to anastomotic leak.
4. GI malignancy

Diagnosis was based on history, clinical findings and investigations CBC, Urea nitrogen, serum creatinine. Patients with duodenal perforation had short history pain originating in upper abdomen. Patients with small bowel perforation present with history of shifting pain from umbilicus to right lower quadrant. We performed ultrasound of abdomen, radiological studies and CT scan of abdomen in all cases. All patients
after resuscitation underwent emergency exploratory laparotomy. During operation source of peritonitis was found and treated with adequate procedure. Final diagnosis was made after laparotomy and after procedure, abdomen washed with saline and closed in layers with prolene. All patients followed in ICU post operatively, with the coverage of broad spectrum antibiotics with fluid and electrolyte balance, omeprazole and anti tuberculosis therapy. Drug regimen was not uniform in all patients. The operative details, post operative complications and outcome were noted.

RESULT
A total of 80 surgically treated cases of Acute peritonitis were included. Out of total all patients presented with acute secondary peritonitis. The age range was from 13 to 75 years 70(87.5%) were male and 10(12.5%) female patients. Out of total 62(77.5%), patients had pain abdomen abdominal distension in 40(50%), constipation in 22(27.5%), vomiting in 18(22.5%), fever in 16(20%) and shock distension in 16(20%) patients. Clinical presentation varies according to site of perforation. The 56 (70%), patients had pneumoperitonium, multiple air fluid level seen in 24(30%) patients, electrolyte imbalance like hypokalemia in 48(60%), hyponatremia in 36(45%) and raised urea creatinine in 7(9.5%) patients. The gastric perforation was found in one patient (1.25%) and duodenal perforation in 26(32.5%) patients. The typhoid perforation was found in 38(47.5%) patients and TB perforation (iliocecal) was found in 4(5%) patients. In one patient (1.25%), small intestinal perforation due to foreign body (stones) was managed. In 8(10%) cases perforated appendix were managed. In our study two patients (2.5%) had caecal perforation (amoebic) which were managed by right hemicolectomy and iliocolostomy.

The duodenal perforation was managed by duodenorrhaphy an domentoplasty: ileal perforation by primary repair and iliocaecal TB by limited right hemicolecetomy. The trachobezoar remove through separate incision on anterior wall of stomach and perforation closed by primary repair and omentopexy separately. Multiple stones from ileum removed through enterostomy and perforation closed by primary repair. The perforated appendix was treated by appendicectomy. Per operative finding later on confirmed by histopathology.

1. Clinical presentation
Abdominal pain 62 77.5%
Abdominal distension 40 50%
Constipation 22 27.5%
Vomiting 18 22.5%
Fever 16 20%
Shock 16 20%

2. Investigations
Pneumoperitonium 56 70%
Air Fluid level 24 30%
Hypokalemia 48 60%
Hyponatremia 36 45%
Urea and Creatinine 07 9.5%

3. Associated comorbidity
Diabetes Melitus 12 15%
Hypertension 08 10%
Kidney diseases 16 20%
Chronic liver diseases 04 5%

4. Causes of perforation
Typhoid perforation 38 47.5%
Duodenal perforation 26 32.5%
Perforated appendix 08 10%
TB iliocaecal region 04 05%
Caecal perforation (amoebic) 02 2.5%
Trachobezoar 01 1.25%
Foreign body (stones) 01 1.25%

5. Site of Perforation
Ileum 43 53.5%
Duodenum 26 32.5%
Appendix 08 10%
Caecum 02 2.5%
Stomach 01 1.25%
6. Surgical procedure
Primary repair of illial perforation 43 53.5%
Duodenorrhaphy and omentoplasty 26 34.5%
Appendectomy 08 10%
Right hemicolecotomy 04 05%
RT hemicolecotomy and iliocestomy 02 2.5%

7. Post operative complications
Wound complications 09 11.5%
Electrolyte imbalance 07 8.5%
Septicemia 04 05%
Burst abdomen 02 2.5%
Mortality 02 2.5%

8. Associated condition
Left inguinal hernia with illial perforation 01 1.25%
Incisional hernia with Caecal perforation 01 1.25%

DISCUSSION
Acute peritonitis is the most common surgical emergency in the younger age group and majority of the patients were male 78% and female 22% which is consistent with other study. Perforation of distal part of gastrointestinal tract was more common that proximal which is in contrast to the studies of eastern countries but consistent with the western countries. It is noticed proper resuscitation before operation and appropriate surgical procedure decrease mortality.

Ileal perforation was the most common perforation noticed in our study. Causes of ileal perforation were typhoid and tuberculosis and on case was perforation due to the stones in small intestine. Typhoid enteric perforation was managed by primary repair. Typhoid perforation can also be treated laparoscopically. Primary repair is safe and effective.

Tuberculosis is still common in eastern countries. Common site of extra pulmonary tuberculosis is the ileocaecal region and terminal ileum. The ileocaecal tuberculosis present as a mass in right lower quadrant or obstruction due to stricture and in ulcerative type with perforation peritonitis. Management of tubercular perforation of ileum is right hemicolecotomy with or without stoma, along with anti tuberculosis treatment.

There are other treatment options for perforated duodenal ulcer, like Bilroth II, Truncal vagotomy drainage procedure and laparoscopic repair of perforated ulcer. Trachobezoar is a rare condition, it manifest as gastric perforation and peritonitis, it was removed through separate incision on the anterior wall of stomach and repaired in two years, next perforation on lesser curvature closed by omentoplasty. In our series, one patient had habit of eating stones, which were accumulated in upper ileum and presented with perforation peritonitis. The stones removed through enterostomy and repaired in two layers and perforation repaired separately. The perforated appendix were managed by appendectomy through laparotomy.

Our mortality and postoperative complications were comparatively low. Factors contributing to high mortality and postoperative complication are advanced age, late presentation delay in treatment, septicemia and co-morbidities.

CONCLUSION
The pattern of secondary peritonitis is variable, depends upon eating habits, sanitary conditions and socio economical conditions. Perforations of small intestine are seen commonly than the large intestine and duodenum. Good preoperative resusciation and early management will decrease the morbidity, mortality and complications of secondary peritonitis.

REFERENCES: