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FREQUENCY OF ACUTE PERITONITIS AT TEACHING HOSPITAL

Dr. Sidra Maryam*[1], Dr. Iqra Mujahid[2] and Dr. Aqsa kanwal[3]

[1](Pmdc # 84900-p).
[2](Pmdc # 98798-p).
[3](Pmdc # 91240-p).

***Corresponding Author: Dr. Sidra Maryam**

(Pmdc # 84900-p).

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ABSTRACT

Objective: To determine the frequency and pattern on acute peritonitis at tertiary care hospital. **Patients and Methods:** This descriptive case series study was conducted from July 2017 to December 2017 on the patients that were provisionally diagnosed as acute peritonitis after relevant investigations and underwent surgical interventions of ≥12 years of age and either gender. The laparotomy was done under general anesthesia or epidural anesthesia while the postoperatively patients were followed till discharge from hospital and reviewed in OPD for at least one month. The data collected on pre-designed proforma and analyzed in SPSS 16. The frequency / percentages and mean ± SD was calculated for the study variables. **Results:** During six months study period, total fifty individuals with peritonitis were enrolled and evaluated with 38.98 ± 7.62 mean age ± SD. Majority of the individuals were belonged to rural population (75%) and were males (70%). The common sign and symptoms observed were pain in abdomen (90%), fever (80%), vomiting (84%), tenderness and rigidity (80%). The leading etiologies identified were duodenal (50%), appendicular (20%) and ilial perforations (6%). The interventions performed were omental graft closure (Graham's patch), simple closure of perforation and resections and anastomosis while the common complications observed were wound infections (8 patients), fecal fistula (3 patients) and pelvic abscess (3 patients). The mortality was observed in 10 subjects, of which seven males and three females. **Conclusion:** Prompt resuscitation and early surgical intervention can reduce the mortality and morbidity in relation to acute peritonitis

KEYWORDS: Peritonitis, Etiology, Complications and Surgical intervention.

INTRODUCTION

Peritoneum is the largest serous smooth membrane of human body and the peritonitis is defined as inflammation of a portion or all of the parietal and visceral peritoneum. It is most common surgical emergencies present to surgical wards.[1-3] The inflammation of peritoneum is either due to chemical insult or bacterial invasion.[4] The pathogens spread into peritoneal cavity through perforation of viscera, the blood vessels and lymphatic system or through open ends of fallopian tubes.[5] Chemical peritonitis results from gastric or biliary fluids, blood or foreign bodies left after surgery like gauze pads, gown, glove lubricant and instruments.[6,7] Peritonitis may be primary or secondary, acute or chronic, localized or generalized, septic or aseptic.[8] The diagnosis of peritonitis is made largely by detail history and clinical examinations with routine and specific investigations.[9] After the confirmation of diagnosis confirmed the patient can be managed either by conservatively or through surgical interventions.[10,11]

Formerly, the peritonitis was considered as life threatening condition.[12] At present advances in understanding the disease pathogenesis, availability of broad spectrum antibiotics, advance modern equipment and expertness in medical and surgical field, peritonitis still has major health trouble for health care providers as far as mortality and morbidity is concerned.[13,14] The life style alterations like reduction in physical activity, high calorie diet intake, tobacco / smoking, alcoholism and drugs are found to be pathognomonic factors.[15] The aim of the study was to analyze frequency and pattern of acute peritonitis and to detect the measures to reduce the complications as far as management strategies are concerned.

PATIENTS AND METHODS

This descriptive case series study was conducted from July 2017 to December 2017 on the patients that were provisionally diagnosed as acute peritonitis after relevant investigations and underwent surgical interventions of ≥12 years of age and either gender while the exclusion criteria of the study were cases in pediatric age group (<12 years), the subjects refused to participate in the study or surgery and the patients unfit for surgical intervention (vitally unstable). The referral patients from

department of Medicine and Gynecology& Obstetrics were also included in the study. The subjects clinically diagnosed as peritonitis had X-ray abdomen (erect and supine) abdomen and routine blood investigations along with specific investigations as Serum amylase, typhidot and Widal test if pancreatitis or typhoid fever was suspected. After stabilization (conservative measures), patients were planned for surgery. The laparotomy was done under general anesthesia or epidural anesthesia while the postoperatively patients were followed till discharge from hospital and reviewed in OPD for atleast one month. The demographical, clinical, etiological, interventional and mortality was recorded on pre-designed proforma and analyzed in SPSS 16. The frequency and percentages (%) was computed for categorical data while the quantitative variables were computed as mean ±SD.

RESULTS

During six months study period, total fifty individuals with acute peritonitis were enrolled and evaluated. Majority of the individuals were belonged to rural population (75%). The demographical, clinical and etiological presentation of the population is shown in Table 1 while the surgical interventions performed are shown in Table 2 whereas the complications and mortality is shown in Table 3 respectively.

Table 1: The Demographical, Clinical and Etiological Presentation of Population.

AGE (yrs.)	N = 50	PERCENTAGE (%)
12-19	04	8
20-29	15	30
30-39	12	24
40-49	06	12
50-59	05	10
60+	08	16
Mean ±SD	38.98 ± 7.62	
GENDER		
Male	35	70
Female	15	30
ETIOLOGY OF PERITONITIS		
Duodenal perforation	25	50
Appendicular perforation	10	20
Ileal perforation	03	6
Gastric perforation	03	6
Jejunum perforation	02	4
Intestinal gangrene	05	10
Colonic perforation	02	4
DURATION OF ILLNESS		
≥24 hours	40	80
< 24 hours	10	20
SIGN & SYMPTOMS		
Abdominal pain	45	90
Vomiting	42	84
Diarrhea	15	30
Constipation	08	16
Distension	08	16
Fever	40	80
Tachycardia	37	74
Hypotension	30	60
Tenderness / rigidity	40	80
Liver dullness obliteration	30	60
Absent bowel sounds	40	80

Table 2: The Surgical Interventions.

SURGICAL INTERVENTION	N=50	PERCENTAGE (%)
Omental graft closure (Graham's patch)	31	62
Simple closure of perforation	05	10
Peritoneal toilet only	03	6
Resections and anastomosis	05	10
Transverse colostomy	02	4
Appendectomy	04	8

Table 3: The Complications and Mortality.

COMPLICATIONS	N=20	PERCENTAGE (%)
Fecal fistula	03	15
Wound infection	08	40
Pelvis abscess	03	15
Duodenal fistula	02	10
Burst abdomen	02	10
Paralytic ileus	02	10
MORTALITY	**N=10**	**PERCENTAGE (%)**
Male	07	70
Female	03	30

DISCUSSION

The patients in present study were enrolled, evaluated and treated from July 2017 to December 2017 at Nishtar Hospital Multan. In present series Paediatric population was excluded while the mean age ±SD for whole population was 38.98 ± 7.62 consistent with the study by Tripathi MD.[16] In present series 35 (70%) of patients were males while 15 (30%) were females and is consistent the findings of the study by Desa LA, et al.[17] while the study by Kachroo R, et al.[18] had equal distribution for male and females respectively. Majority of subjects presented (60% of patients) had more than 24 hour duration of illness at the time they were underwent for surgery and consistent with the study published in 2009.[19] Most of subjects in our study presented late because of their poor socioeconomic status, belonged to rural population, lack of transport facilities and absence of surgical facility in nearby areas. In current series, 25 (50%) of cases for peritonitis were due to duodenal perforation, 10(20%) were due to perforation of appendix, 3(6%) due to ileal perforation, 5(10%) due to intestinal gangrene, 2(4%) due to jejunal perforation, 3(6%) due to gastric perforation and 2(4%) due to colonic perforation. The study by Desa LA,[17] observed duodenal ulcer perforation, ileal perforation and appendicular perforation in 33.8%, 28.44% and 19% respectively. In current series abdominal pain, vomiting, bowel disturbances, distention of abdomen, fever, abdominal tenderness, obliteration of liver dullness, and diminished / absent bowel sounds in 90%, 84%, 23%, 16%, 80%, 80%, 60% and 80% patents, the observations are consistent to the study by Desa LA, et al.[17] and Kachroo R, et al.[18] In our study peritoneal tap was positive in all cases and the pathogens identified were E. coli and mixed growth of organisms, bacteroides fragilis, staphylococcus, pseudomonas and Klebsiella. Iqbal MM, et al.[20] study observed E. coli, Klebsiella, proteus, Staphylococcus aureus and pseudomonas as common pathogens.

25(50%) patients of duodenal perforation cases underwent surgery as closure with omental patch (Grahams patch). In 3(6%) case of sealed ileal perforation only peritoneal toilet was performed. In appendicular perforations, the appendectomy was performed. Resection and anastomosis was done in total 5(10%) subjects. Patients were observed till discharge from hospital and also followed up. The wound infection, fecal fistula, pelvic abscess, burst abdomen, duodenal fistula and prolonged paralytic ileus was observed in 8(40%), 3(15%), 3(15%, 2(10%), 2(10%) and 2(10%) patients. The observations were also observed by former literature.[21-23] In present series the mortality rate was 20% (10 out of 50 subjects), whereas in Desa LA, et al.[17] study was 25% and in Kachroo R, et al.[18] study was 10%.

CONCLUSION

It was concluded that male gender population was predominant with abdominal pain is the most common symptom followed by vomiting and fever in individuals with acute peritonitis. Duodenal ulcer perforation is the commonest cause of peritonitis followed by appendicular perforation. E coli were the most common organism found on peritoneal aspirate culture while the common postoperative complication was wound infection. The common interventional procedures performed were omental graft closure (Graham's patch), simple closure of perforation, peritoneal toilet only, resections and anastomosis and appendectomy. Hence prompt resuscitation and early surgical intervention can reduce

the mortality and morbidity in relation to acute peritonitis.

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