



ETIOLOGY FOR HOLLOW VISCUS PERFORATION

KEYWORDS

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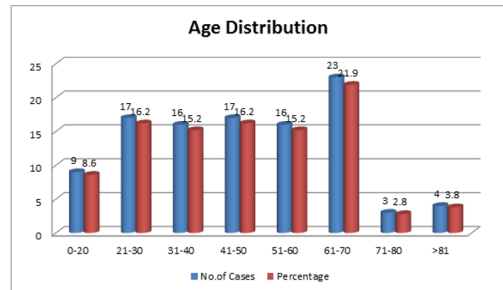
INTRODUCTION

- Peritonitis as a result of hollow viscus perforation is one of the most common surgical emergencies in India and all over the world.
- Peritonitis is defined as inflammation of the serosal membrane that lines the abdominal cavity and the organs contained therein.
- The etiology of perforation in India is different from Western counterpart.
- Peritonitis can be classified as primary (hematogenous dissemination), secondary (due to perforation or trauma), or tertiary (persistent or recurrent infection after adequate initial therapy)
- Perforation peritonitis is one of the common surgical emergencies encountered in Tertiary care Centre.(1)
- Peritonitis usually presents as an acute abdomen. Local findings include abdominal tenderness, guarding, rigidity, distension, diminished bowel sounds. Systemic findings include fever, chills or rigor, tachycardia, sweating, restlessness, tachypnea, dehydration, oliguria, disorientation and ultimately shock.
- The peritoneal contamination with gastrointestinal contents as a result of perforation results in peritonitis. The pathogens involved in secondary peritonitis differ in proximal to distal GI tract. The lower GI perforation peritonitis is more in Western counterpart.
- The gold standard treatment in suspected bowel perforation is exploratory laparotomy. Endoscopic, laparoscopic and laparoscopic assisted surgeries are now increasingly performed instead of conventional open laparotomy.
- The study was carried out to evaluate various etiological factors, mode of clinical presentation, morbidity and mortality pattern of different types of perforation peritonitis presented in our hospital.

METHODS AND MATERIALS

- This is a retrospective study of 105 cases of perforative peritonitis seen over a period of 3 years from Oct 2014 to Oct 2016 at Yenepoya Medical College Hospital Mangalore. The cases due to anastomotic dehiscence were excluded from this study.
- In all the cases of peritonitis as a result of hollow viscus perforation resuscitation was done first and initial provisional diagnosis was made by detailed history, physical findings, presence of Pneumoperitoneum on chest x-ray. Routine blood and urine examination, serum urea, creatinine, electrolyte estimation, Blood sugar and Ultrasound abdomen was done in all cases.

- Exploratory laparotomy was done and necessary definitive procedures were done with adequate peritoneal wash



SEX DISTRIBUTION:

Sex	No. of Cases	Percentage
Male	78	74.28
Female	27	25.72

Table 1: Sex Distribution of cases studied

- A total of 105 cases were studied. Clinical presentation of the patients varied according to the site of perforation and pathology.
- The gastro duodenal perforation patients had a predominant history of sudden onset of pain abdomen in the epigastrium with associated generalized tenderness and guarding. Most of the patients gave a history of NSAID intake for other painful conditions.
- The patients with small bowel perforation gave a history long standing fever followed by pain abdomen, distension of abdomen vomiting and constipation. Pneumoperitoneum on chest X-ray was evident in most of the cases (90%).
- Appendicular perforation patients had a characteristic pain originating in the periumbilical region later migrating to right iliac fossa. Other features like vomiting, fever, localized guarding, rebound tenderness was also seen. Erect X-ray did not show the Pneumoperitoneum.
- Peptic ulcer disease and NSAID consumption was the most common etiological factor for gastro duodenal perforation (70%). Small bowel perforation was due to Enteric fever and trauma. Anastomotic ulcer perforation constituted 5%.

CLINICAL FEATURES:

Signs and Symptoms	No. of cases	Percentage
Pain abdomen	81	77.14
Vomiting	41	39.04
Distension of abdomen	2	1.90
Constipation	2	1.90
Fever	10	9.52
Diarrhoea	1	0.95
Decreased urine output	2	1.90
H/O Fall/Trauma	3	2.85

Table 2: Clinical Features of cases studied

INVESTIGATIONS:

Pneumoperitoneum	75
Air fluid levels (Abdomen)	30
Hyponatraemia	40
Hypokalemia	9
Blood Urea Nitrogen	10
Serum Creatinine	8

Table 3: Investigations Reports of cases studied

SITE OF PERFORATION:

Site of Perforation	No.(105)	Percentage
Gastric	5	4.76
Duodenal	70	66.66
Small Bowel	9	8.57
Colon	3	2.85
Appendicular	13	12.38
Others (Anastomotic ulcer)	5	4.76

Table 4: Site of Perforation Noticed in cases studied

SURGICAL PROCEDURES:

Procedures	Numbers
Simple closure	76
Resection with anastomosis	11
Appendectomy	13
Definitive procedures	3
Resection without anastomosis	2

Table 5: Surgical procedures done for cases studied

COMPLICATIONS:

Complications	Number	Percentage
Wound infection	32	30.47
Paralytic Ileus	22	20.95
Dehiscence	2	1.9
Intra-abdominal abscess	0	0
Fecal fistula	0	0

Table 6: Complications seen in cases studied

RESULTS

- The maximum number of patients in our study was in the age group of 61-70 years. There were 78 males (74.29%) as compared to 27 females (25.71%).
- The most commonest site of perforation in our study was gastro-duodenal (75), appendicular (13), small bowel (9), and colonic perforation (3).
- The complication rate (51.42%), mortality rate (0.95%).

DISCUSSION AND SUMMARY

- In this study the maximum number of cases was within the age group of 21- 70 years. Most of them presented to our hospital at a late stage with pain abdomen. Commonest site of perforation was Gastro Duodenal. It was followed by Appendix. Other areas like colon, small bowel constituted less number of incidence.
- Mean age of presentation was 45.52 in the study which is almost equivalent to the mean age of 49 years found by Singh G et al.(2)
- The other studies showed the range from 38.8 to 60 years.
- The incidence of perforation was higher (74.28%) in male population as compared to other studies.(3)
- Pain abdomen is the most common presentation with 77.14%(4)
- In the present study 77.14% of the patients had pain abdomen, 39.04% had vomiting and 9.52% had history of fever which was almost similar in other studies.(4,5) Perforation of the proximal part of the gastrointestinal tract was more common,(6) which is in contrast to the studies from western countries where perforations are common in the distal part.(7-9)
- It was noticed in our study that proper hydration, good antibiotic cover, and simple closure of the perforation using an omentopexy significantly decreases mortality rate.(10)
- Duodenal ulcer perforation was the most common (66.66%) and same result was shown by other studies.(11-13) Appendicular perforations were seen in 13(12.38%) patients comparable to

other studies that showed an incidence of 3.5% to 12%.(3,9) Appendectomy, peritoneal toileting and systemic antibiotics were used in all cases. Traumatic perforations accounted for 2.85 % of all causes and it is comparable with the 9% incidence shown by Jhobta RS et al.(3)

- The higher incidence of wound infection may be because majority (30.47%) of patients presented late (>48hours) to the hospital with well-established peritonitis and majority were in older group.(14)

CONCLUSION

- The majority of perforation peritonitis cases in the study comprised of peptic ulcer perforations followed by appendicular and small bowel perforations.
- The basic principles of early diagnosis prompt resuscitation and urgent surgical intervention still form the cornerstones of management in these cases.
- The spectrum of peritonitis in India is markedly different from that of the western world. Perforations are seen mostly in the small bowel rather than the large bowel. We have to educate the health professionals at the primary level regarding early recognition of the perforative peritonitis and early referral to tertiary centers so that morbidity and mortality can be minimized.

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