

Clinical Profile of Patients with Acute Peritonitis at a Tertiary Care Hospital

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Abstract

Introduction: Peritoneum consists of single sheet of simple squamous epithelium of mesodermal origin, termed mesothelium lying on thin connective tissue stroma. Peritoneal membrane is divided into parietal and visceral peritoneum. Parietal layer lines the abdominal wall and visceral layer covers abdominal viscera. Peritoneal cavity is the potential space between parietal and visceral peritoneum. *Methodology:* This study comprises of 50 cases of acute peritonitis coming to Medical College & Hospital. A pre-tested proforma was used to collect the relevant information by history, clinical examination of patients, relevant investigations required and treatment. Patients were admitted as and when they presented with the following inclusion and exclusion criteria. *Results:* Vomiting was seen with 54% of cases with duodenal ulcer perforation, 50% of cases with ileal perforation, 50% of cases with appendicular perforation. 75% of cases of peritonitis due to other causes had vomiting. In total 56% of cases had vomiting. The next most common symptom was fever which was seen in about 50% of the total number of cases studied. *Conclusion:* Guarding, rigidity, tachycardia and absent bowel sounds are most common signs seen in peritonitis.

Keywords: Peritoneal Cavity; Abdominal Pain; Perforation.

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Introduction

Trilaminar embryo turns progressively pear shaped with accumulation of intraembryonic mesoderm. This is followed by a median rostrocaudal appearance of protocardiac area, buccopharyngeal membrane, notochord and primitive streak. Median cavitation in protocardiac area with fusion with lateral clefts, gives rise to horseshoe shaped intra embryonic coelom [1]. The mesodermal cells lining the intraembryonic coelom change to mesothelial cells and produce parietal and visceral layer of peritoneum. Both parts of peritoneum receive visceral innervation, but parietal peritoneum also has somatic sensation [2].

The alimentary tube from the diaphragm to the commencement of the rectum possesses throughout its length initially a sagittal dorsal mesentery line of continuity with the dorsal parietal peritoneum (i.e its root) lying in the posterior midline. The abdominal foregut from the diaphragm to the future hepatopancreatic duodenal papilla in addition, has a ventral mesentery presenting as a crescentic free margin caudally extending from the duodenum to the umbilicus. Below the umbilicus the peritoneal cavity is freely continuous across the midline. Mesenteric changes occur as an integral accompaniment of the alterations in the visceral content including differential asymmetric growth, regional or progressive degeneration and repositioning such as sequential extrusion, recursion, rotation, spiralisisation and relative ascent or descent. As a result the original midline vertical dorsal mesentery becomes oblique (jejunoileal mesentery) or complex and highly curved (dorsalmesogastrum) [3]. Sometimes a part or the whole of mesentery lies against the parietal peritoneum and the opposed surfaces fuse forming retroperitoneal organs with

peritoneum lining mainly the ventral and perhaps the ventromedial and also ventrolateral surfaces [4]. The resulting parietovisceral or intervisceral depressions or grooves form pouches, fossae or gutters [3].

Peritoneum consists of single sheet of simple squamous epithelium of mesodermal origin, termed mesothelium lying on thin connective tissue stroma [4].

Peritoneal membrane is divided into parietal and visceral peritoneum. Parietal layer lines the abdominal wall and visceral layer covers abdominal viscera.

Peritoneal cavity is the potential space between parietal and visceral peritoneum. There are 4 main peritoneal derivatives, the omentum, the mesentery, ligaments and fossa. The omentum is fold of peritoneum passing between stomach and other abdominal viscere. Mesentery is fold of peritoneum passing between a portion of intestine and abdominal wall [5]. A ligament is fold of peritoneum that connects viscus, other than intestine, to abdomen or pelvic parietes or viscus of any kind, to each other or to diaphragm. Fossae or recess are small or deep pockets [2].

Methodology

This study comprises of 50 cases of acute peritonitis coming to Medical College & Hospital. A pre-tested proforma was used to collect the relevant information

by history, clinical examination of patients, relevant investigations required and treatment.

Patients were admitted as and when they presented with the following inclusion and exclusion criteria.

Inclusion Criteria

In study, all the cases that were provisionally diagnosed with acute peritonitis and subjected to relevant investigations and underwent surgery were included.

Exclusion Criteria

- Cases who were ruled out after investigations
- Cases in paediatric age group (<15 years) as they come under superspeciality.
- Cases that were treated conservatively.
- Cases who refused surgery
- Cases unfit for surgery

Results

This study represents a systematic analysis of fifty operated case of peritonitis.

Paediatric age group is not included in present study. Most of patients are between second and third decade of life, while majority is middle age group i.e.,

Tale 1: Age distribution

Age in years	No. of Cases	Percentage
15-25	16	32
26-35	12	24
36-45	9	18
46-55	10	20
56-65	1	2
66-75	2	4

Table 2: Sex Distribution

Sex	No. of Cases	Percentage
Male	40	80
Female	10	20

Table 3: Mean Age and Sex distribution

	Mean age	Range
Male	37	15-74
Female	35	15-60

Table 4: Analysis of Symptoms and Signs

Symptoms & Signs	Duodenal perforation		Appendicular perforation		Ileal perforation		Others		Total	
	No	%	No	%	No	%	No	%	No	%
Pain	28	100	8	100	4	100	10	100	50	100
Vomiting	15	54	4	50	2	50	7	75	28	56
Diarrhoea	0	0	4	50	2	50	3	30	9	18
Constipation	2	7.1	0	0	0	0	2	20	4	8
Distension	9	32.7	4	50	3	66.6	2	20	18	36
Fever	14	50	6	75	2	50	3	30	25	50
Tachycardia	15	54	5	63	2	50	7	70	29	58
Hypotension	7	25	1	6.2	1	11	2	20	11	22
Tenderness	28	100	8	100	4	100	10	100	50	100
Rigidity	28	100	8	100	4	100	10	100	50	100
Obliteration of liver dullness	12	43	0	0	1	25	3	30	16	32
Absent / Diminished bowel sounds	13	46.4	4	50	4	100	6	60	27	54

in third, fourth and fifth decade of life. Less patients seen in sixth and seventh decade of life.

Male patients accounted for 80% of cases while females accounted for 20% of cases. The sex ratio being 4:1.

Mean age of patients is 36 years. Mean age in males is 37 years and mean age in females is 35 years.

The youngest patient was 15 years old and eldest patient was 74 years.

Pain was found to be present in all cases of peritonitis irrespective of pathology.

Vomiting was seen with 54% of cases with duodenal ulcer perforation, 50% of cases with ileal perforation, 50% of cases with appendicular perforation. 75% of cases of peritonitis due to other causes had vomiting. In total 56% of cases had vomiting.

The next most common symptom was fever which was seen in about 50% of the total number of cases studied.

Abdominal distension was seen in 36% of the cases.

Bowel disturbances were seen in 26% of cases with 4 cases of appendicular perforation and 2 cases of ileal perforation presenting with history of diarrhea.

Among the signs, tenderness including rebound tenderness, with abdominal wall rigidity was universal.

58% had tachycardia while 22% had hypotension. Hypotension was mainly seen in those cases presenting after long period of delay after the onset of symptoms.

About 54% of the cases had absent or diminished

bowel sounds. In 32% of the cases the liver dullness was obliterated in the anterior axillary line.

Discussion

The patients in present study were admitted and treated in Medical College & Hospital. 50 cases of peritonitis who were treated surgically were included in the study as and when they presented to our Hospital.

In this study patients in paediatric age group were not included as they are treated by super specialist. The youngest patient was 15 years old while eldest was 74 year old. Mean age of patients is 37 years.

In study by MD Tripathi [6] 41.25% patients were between 21-40 years.

In study by LA Desa [7] mean age of patients was 31.5 years.

In this study 80% of patients were male while 20% were females. The sex ratio was 4:1. In a study by MD Tripathi [6] 72.5% of cases were males and 27.5% were females. According to LA Desa [7] study 82.6% were males and 17.4% were females. In study by Kachroo [8] male and female ratio was almost equal.

Most of patients presented late. 60% of patients had duration of illness more than 24 hours, by the time they were taken for surgery.

In study by Kachroo [8] mean delay when patients presented were 4 days.

Most of patients presented late, in our study because of their poor socioeconomic status, lack of transport facilities and absence of surgical facility in near by place.

In this study pain abdomen was seen in all patients. Same was seen in study by Kachroo [8] where it was seen in 89 patients out of 90 patients.

LA Desa [6] reported pain in only 86.96% of patients.

Vomiting was seen in 56% of cases in this study which relates well with 53.42% seen in LA Desa [7] series.

Bowel disturbance was seen in 26% of patients in this series while it was 30.43% in LA Desa [7] series.

Distension of abdomen was seen in 36% cases while in LA desa [7] series it was seen in 52.7% cases.

Fever was present in 50% of our cases while in LA Desa [7] series it was present in 44.1% cases.

58% of our patients had tachycardia at presentation, while 22% patients were in state of shock, In LA Desa [7] study, 39.75% of cases came in shock.

Abdominal tenderness and rigidity was present in all patients in this series and it correlates well with Kachroo [8] series where it was same. But in study by LA Desa [7] it was present in 85.71% of cases only.

Liver dullness was obliterated in 32% of the cases in this series, where as in LA Desa [7] series it was obliterated in 50.93% of cases.

Bowel sounds were absent or diminished in 54% cases in our study and it relates well with LA Desa [7] series in which paralytic ileus was present in 51.5% cases. In study by Kachroo [8] bowel sounds were absent in 44% cases.

Conclusion

Most of the cases of peritonitis are middle aged male patient with mean age of 37 years and male to

female ratio of 4:1. Abdominal pain is the most common symptom followed by vomiting and fever.

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