ORIGINAL RESEARCH PAPER

Volume-8 | Issue-7 | July - 2019 | PRINT ISSN No. 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

PERFORATIVE PERITONITIS: CLINICAL PROFILE AND ITS MANAGEMENT

General Surgery

Ashok Kshirsagar MS General Surgeon

Vinay Baretha* Surgery Resident *Corresponding Author

ABSTRACT

Background: The purpose of the study is to study the clinical profile of the patient with perforative peritonitis, to determine whether only simple closure of perforation still an effective measure for the treatment of peptic ulcer perforation, follow the post operative patient for recurrence of acid peptic disease symptoms among them how many requiring definitive treatment, to study the morbidity and mortality of the patient with perforative peritonitis.

Methods: The study was carried out in patients of Krishna Hospital And Medical Research Centre, Karad in period of May 2007 to May 2009. We evaluated 71 patients, out of which 67 patients were treated surgically.

Results: In our study, 8 out of 71 patient expired. Post operative mortality was 11% which includes 3 patients with peptic perforation, 3 of small bowel perforation, 1 of colonic perforation and 1 patient of hollow viscus perforation of unknown cause who was not operated due to critical general condition since admission.

Conclusion: Peptic perforation dominated the incidence with 62% of cases while traumatic perforation with 17% of cases. Simple closure of perforation was found to be still adequate treatment for peptic perforation.

KEYWORDS

Perforation, small bowel, colon, peritonitis, peptic ulcer.

BACKGROUND

Diffuse[1] peritonitis is still a dreaded condition and has a high mortality and morbidity. The incidence in underdeveloped world is very high and delay in presentation due to various socioeconomic reasons commonly affect the outcome. Duodenal perforation is one of the most common causes of diffuse peritonitis. On one hand this is very serious if untreated but, on the other hand it is quite successfully controlled when properly treated. There are 2 schools of thought regarding the treatment of duodenal ulcer perforation, one which deals with operative treatment, and other which deals with non operative treatment. However the operative treatment remains the accepted standard treatment. Typhoid perforation of intestine is an abdominal emergency of higher magnitude in the tropics. Though chloramphenicol has reduced the mortality due to typhoid fever from 14% to 2% or less, intestinal perforation still causes high mortality[2] of about 20-40%. In the past mortality was even higher. opinions still divided on the place of surgery in the management of typhoid perforation. Many authorities maintain the view that mortality from operative [3] treatment is still 40%. And hence Huckstep and others strongly advocate conservative management. As the use of automobiles has become more widespread, blunt trauma to the abdomen has become increasingly common. The mechanism of blunt trauma is as follows: sudden deacceleration or sudden compression of abdomen may result in injury to abdominal viscera. Blunt abdominal[4] trauma continues to be associated with significant mortality and morbidity inspite of improved diagnostics measures and management. In the present study, an attempt is made to diagnose the cases correctly with the help of clinical data and relevant simple investigations and after diagnosis the decision to manage the patient either by surgical or conservative treatment as decided by the aetiology, general condition of the patient and duration of the symptoms.

METHODS

A detailed study of 71 cases of peritonitis due to GI perforation that were admitted in Krishna hospital, karad during the period of may 2007 to may 2009 were studied. All these patients were admitted as emergency cases. Complete history taken and detailed examination was done. In every patient hemogram, urine routine microscopy, erect x-ray abdomen, blood sugar levels, rft, and electrolytes were studied. After diagnosing the cases decision was taken to treat surgically or conservatively. In our series 67 patients were treated surgically. Initially both therapeutic and diagnostic efforts were conducted simultaneously. Therapeutic efforts were directed towards restoration of effective body volume, diagnosis was directed towards the cause of peritoneal sepsis.

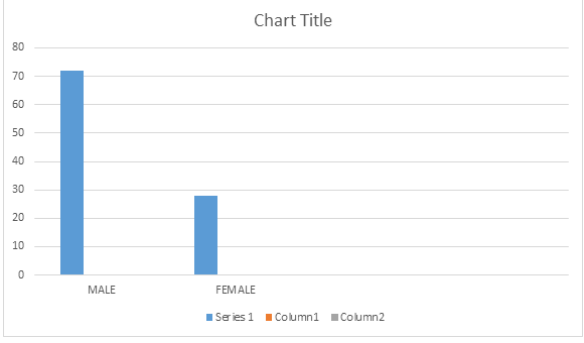
OBSERVATIONS AND RESULTS

Table No. 1

AGE GROUP IN YEARS	NO. OF CASES		TOTAL
	MALE	FEMALE	
0-10	0	0	0
11-20	2	0	2
21-30	2	1	3
31-40	12	6	18
41-50	14	4	18
51-60	9	4	13
61-70	9	5	14
71-80	3	0	3
TOTAL	51	20	71

Age incidences in perforation cases.

In present series, highest incidence was seen in 4th and 5th decades. More common among males.



SEX INCIDENCE

In present series male predominance seen with 72 % of male patients as compared to 28% female patients.

Table no 2INCIDENCE

AETIOLOGY	NO. OF CASES	PERCENTAGE
PEPTIC PERFORATION	44	62%
SMALL BOWEL PEWRFORATIONS	11	15%
LARGE BOWEL PERFORATION	2	3%
TUBERCULOUS PERFORATION	0	0%
TRAUMATIC PERFORATION	12	17%
APPENDICULAR PERFORATION	2	3%
SEALED PERFORATION	0	0%

Peptic perforation was the major cause of perforative peritonitis in the present study.

Table No. 3

AGE GROUP YEARS	NO OF CASES		TOTAL
	MALE	FEMALE	
0-10	0	0	0
11-20	1	0	1
21-30	1	0	1
31-40	8	3	11
41-50	9	4	13
51-60	8	2	10
61-70	4	2	6
71-80	2	0	2
TOTAL	33	11	44

Common age group affected in peptic perforations was from 4th to 5th decade

AGE INCIDENCE

Youngest patient was 17 years old male and eldest being 80 years old male.

Incidence of symptoms of perforative peritonitis is shown in the following the table

Table no 4

SYMPTOMS	NO. OF CASES		PERCENTAGE
PAIN IN ABDOMEN	71	(44)	100%
VOMITING	29	(17)	41%
DISTENSION	21	(11)	30%
FEVER	12	(4)	17%
CONSTIPATION	8	(5)	11%
LOOSE MOTIONS	4	(1)	6%
OTHERS	0	(0)	0%

Table no 5

Signs	No of cases		Percentage
Tachycardia	34	(28)	48%
Hypotension	16	(6)	23%
Tachypnoea	14	(6)	20%
Tenderness			
- Generalised	54	(44)	76%
- Localised	17		24%
Guarding			
- Generalised	54	(37)	76%
- localised	13		18%
Rigidity	26	(18)	37%
Obliteration of liver dullness	41	(35)	58%
Positive findings on P/R	0	(0)	0%

Figures in the bracket indicate peptic perforation cases.

Table no 6

Investigations	Positive findings		Percentage
Hb below 10g%	17	(9)	24%
TLC above 10k	30	(22)	42%
Plain x-ray abdomen erect	54	(41)	76%

Figures in the bracket indicate peptic perforation cases.

Culture And Sensitivity

Out of 71 cases, culture and sensitivity was done of peritoneal fluid in every cases. Amongst them 40% of the cultures showed microbial growth and 60% were sterile. In peptic perforation cases, 19 out of 44 cases i.e. 43% of patients showed positive culture, all were E.coli and remaining cultures were sterile. Rest of the cultures showed staphylococcus in 5 cases, klebsiella in 3 cases and mixed e.coli and klebsiella in 2 cases.

Results and follow up

Table no 7 : Post operative complications

Post-operative complications	No of cases		Percentage
Wound infection	15	(5)	24.19%
Burst abdomen	2	(0)	3.22%
Residual abscess(sub diaphragmatic abscess)	1	(1)	1.61%
Faecal fistula	2	(0)	3.22%
Thrombophlebitis	6	(2)	9.67%
Bronchopneumonia	2	(0)	3.22%

Figures in bracket shows number of peptic perforation cases.

Wound infection was observed in 15 patients out of which 5 cases were of peptic perforation cases.

Least post operative complication was residual abscess found in one case of peptic perforation.

Table no 8: Mortality

S. no	Duration of perforation	Admission to operative procedure time interval	Postoperative diagnosis	Cause of death	Postoperative day of death (day)
1.	1 hr	11 hrs	Traumatic jejunal perforation	Septicemia with ARDS	9th
2.	12 hrs	10 hrs	Pre-pyloric gastric perforation with HTN	Septicemic shock with ARF	2nd
3	2 days	12 hrs	DU perforation	Septicemia	7th
4.	4 days	8 hrs	DU perforation	Septicemic shock	1st
5.	2 days	6 days	Multiple caecal and ascending colon perforation	Septicemic shock secondary to fecal fistula	21st
6.	3 days	2 days	Distal jejunal perforation due to multiple adhesions	Septicemia	8th
7.	4 days	3 hrs	Distal ileal perforation due to adhesions	Septicemic shock	1st
8.	4 days	Not oprated	Hollow viscus perforation with peritonitis	Septicemia	On the day of admission

8 out of 71 patients expired. Post operative mortality was 11% which includes 3 patients with peptic perforations, 3 of small bowel perforation, 1 of colonic perforation and 1 of hollow viscus perforation of unknown cause as he could not be operated due to poor general condition since the time of admission.

Table no 9: Delayed complications in the follow up patients

Out of 63 patients survived, 52 attended for follow up, remaining could not be traced.

Symptoms	No of cases	Percentage(%)
Abdominal pain	11	21.15
Constipation	3	5.76
Loose motions	6	11.53
Re perforation	0	0
Symptom free	32	61.53

11 patients complained of mild abdominal pain and out of these 8 were treated previously for peptic perforations.

DISCUSSION

Perforating peritonitis continues to be a common cause of morbidity and mortality all over the world. The undesirable outcome is multifactorial mainly depending upon the underlying basic disease, the

interval between the perforation and treatment, patient's age, physical status and associated medical illness.

Males were commonly affected than the females, 82 males versus 18 females in this series. This is comparable with the other series by Stainland[5], Goswami[6], Schmitz[7] and Hardy[8].

Table.10

Duration of symptoms in hours	No. of patients	Mortality
0-6	8	1
6-12	21	0
12-24	16	1
24-48	11	0
48-72	7	2
72-96	3	1
96-120	5	3
Above 120	0	0
Total	71	8

This table shows that there is increase in mortality in patients who were admitted with the history of two or more days. Amongst five patients admitted with four days history the mortality was three i.e.,60%. Hence the prognosis of the patients depends upon the time interval between the admission and the operative treatment.

Table 11:

Admission- operation time interval in hours	No of patients	Mortality
0-3	18	1
3-6	35	1
6-9	11	3
Above 9	6	2
Total	67	7

It was found that the mortality was considerably higher in the patients treated after 6 hours of admission i.e. 29.4% as compared to the mortality observed in the patients treated within 6 hours of admission i.e. 3.7%. One patient expired without operative intervention out of total 8 deaths.

Table 12:

Series	Common age group affected in decades
J.Bhatt[9]	4th and 5th
V.Kohli[6]	4th and 5th
Kapoor[10]	4th and 5th
Present series	4th and 5th

So 4th and 5th decades population are the one who are commonly affected.

Table 13:

Findings	Present study	Sawyer's JJ et al11	R.Hodnett12
Pain	100%	100%	88%
Vomiting	38.6%	-	42%
Tenderness	95.4%	81%	66%
Fever	9%	-	-
Constipation	11.3%	-	-
Tachypnoea	13.6%	-	-
Hypotension	13.6%	-	18%
Leucocytosis	50%	73.33%	10%
Gas under diaphragm	93.2%	71%	76%

So pain is the common findings followed by tenderness and the gas under the diaphragm in the present study and the other studies mentioned above in the table.

SUMMARY AND CONCLUSION

- Peptic perforation dominated the incidence with 62% of cases, while traumatic perforation was next to follow with 17% of cases.
- Males predominated over females in peptic perforation cases.
- Maximum number of cases of perforative peritonitis in the present series were in the 4th and 5th decades.
- Abdominal pain was the most common symptom and was found in all the cases.
- Abdominal rigidity was the common elicitable sign.
- Surgical intervention is the treatment of choice in perforative peritonitis.
- The simple closure of perforation was found to be still adequate treatment for peptic perforation.
- The procedure of definitive surgery can be undertaken in the younger age group with reliable history, early presentation and the good general condition of the patients and also availability of good experienced surgeon.
- Though it may stressed that situation vary from institution to institution. However in rural areas the simple closure followed by closed follow up and good drug therapy can be a good policy.
- All the cases of traumatic perforation were treated surgically have uniformly given the good results.
- In the present study, culture and sensitivity was carried out in all the patients out of which 40% gave positive results and 60% were sterile. E.coli dominated the list. Other common organisms were Staphylococci and Klebsiella.
- The morbidity and mortality in perforative peritonitis is reduced drastically due to advances in all fields of surgery, anaesthesia and antibiotics.
- The mortality increases in cases of poor general health, old age, associated illness, hypotension at the time of admission, delay in surgical intervention and also the extent of peritoneal contamination.

REFERENCES

1) Lord Moyniham. Acute Perforation. Surgery of stomach and duodenum 1966;640.
2) Osler. Perforative Peritonitis. Arch Intern Med. 1964;114(2):284-293.
3) Huckstep R.E. Management of Typhoid perforations. Ann. Roy college of surgeons. 1961;169:346-49.
4) Joe Davis, Isdore Cohn JR, Francis M.D. Diagnosis and management of blunt abdominal trauma. Ann. Of surgery 1976;183:672-76.
5) Stainland J.R., Ditchbul J., Dedombal T.T. Clinical presentation of acute abdomen study of 600 patients. Brit. Med. J. 1972;339.
6) V.Kohli, J.C. Langer and H.L. Goswamy. Evaluation of prognostic factors in perforated peptic ulcers. I.J.S.,May 1988;185.
7) Schmitz F.J.,Harlein H.M.,Oslein H.H. Moore perforated peptic ulcer: A study of 136 cases in country hospital. Ann.Surg 1953;138:689-697.
8) Hardy J.D., Walker G.R. and Conn J.H. Perforated peptic ulcer: an analysis of pathophysiologic changes and deaths. Ann. Surg. 1961;153:911-933.
9) J. Bhatt and S.C. Gupta. Vagotomy and pyloroplasty in acute perforated duodenal ulcer. Ind.J.Surg.Feb/March 1988;68-69.
10) V.K. Kapoor, H.Singhal. L.K.Sharma. Perforative peritonitis. Ind J.Surg. Oct/Nov 1988;425.
11) Sawyers J.J. Hemrnington J.L.,Mullheim J.L., Whithead W.A.,Mody B, Marsh J. Acute perforated duodenal ulcer: An evolution of surgical management Arch.Surg.1975;110:527.
12) Richard M Hodnett,M.D.,Federies Lenzdez, M.D.,W. Champon Lee. Annals of Surg. 1989;209:37-38.