www.jmscr.igmpublication.org Impact Factor 3.79
ISSN (e)-2347-176x

Journal Of Medical Science And Clinical Research
IGM Publication An Official Publication Of IGM Publication

Study of Peptic Ulcer Perforation in 80 Cases

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Abstract

Peritonitis following perforation of digestive tract remains an important problem in the field of surgery. In this study of 80 cases, males were(86.25%)and females were (13.75%).Common age of peptic ulcer perforation being less than 40 years, pain is most common presentation, guarding and rigidity common signs. Mortality and morbidity increases with increase in duration of presentation. Ant. duodenal wall is most common site, E.Coli being common organism in peritoneal fluid, common proccedure done was primary closure and omental patch done in 96%cases, with 90% cases completely recovered.

INTRODUCTION

"Peritonitis following perforation of the digestive tract remains an important problem in the field of abdominal surgery." Peptic ulcer remains a common outpatient diagnosis ,but the number of physician visits, hospital admissions, and elective operations for peptic ulcer**.** Disease has decreased steadily and dramatically over the past 3 decades. These trends all predated the advent of fibreoptic endoscopy .highly selective vagotomy, and the use of H2 blockers. However, the incidence of emergency surgery and the death rate associated with peptic ulcer complications like bleeding ,perforation are fairly stable .Peritonitis due to perforated peptic ulcer Still remains one of the common surgical emergencies.

Peptic ulcer is break in epithelium of oesophagus, stomach, duodenum, or rarely meckel's diverticulum. They may be acute or chronic, and ultimately are caused by an imbalance between the action of peptic acid and mucosal defences. There are three conditions which fall in category

of peptic ulcer diseases .Chronic duodenal, chronic gastric ulcerations and erosive gastritis .There are two types of chronic gastric ulcer Type1 and Type2 Type 1 ulcer occur in body of stomach where as Type 2 develop in ant rum or pyloric canal.

Perforation is life threatening complications in peptic ulcer disease and occur in the 2-3 % of cases First clinical description of peptic ulcer perforated disease made by Crist in 1843.during 19 th century ulcer perforation was rare disease that occur n the mainly young women with perforation located at cardia off stomach During early 20 th century ,the incidence of ulcer perforation, increased and ulcer situated in the duodenum of middle aged man .perforated ulcer are decreasing incidence in younger age patients and are increasingly observed in elderly and in women. The incidence of perforation depends upon various ways with multiple factors. Peritonitis caused by perforated ulcer represents 3% all emergency surgery .the clinical symptom of peritonitis vary depending upon site of perforation, as, content of bacterial flora are not uniform in digestive tract. And thus, the therapy of peritonitis should always be based on such facts.

The management of peptic ulcer disease have evolved over decades due to advances in operative techniques, bacteriology and pharmacology. While recognition of H.pylori in peptic ulcer has resulted in paradigm shift in the management of uncomplicated peptic ulcer, debate continuous about appropriate management. of the perforated duodenal bulb and prepyloric ulcer.

Recently sharma et al 2000 described free of mental plug in form of mushroom serosal patch techniques, for the closure of perforations greater than 2.5 cm. as peptic ulcer perforation is common emergency in public hospitals attempt has to be made to study its common symptomatology, clinical course, different operative techniques and problem faced during management.

AIMS AND OBJECTIVE

1. TO study the common symptomatology of peptic ulcer perforation peritonitis and its complications
2. To study morbidity and mortality associated with peptic ulcer perforation peritonitis.
3. To study various treatment options including closure procedure.
4. Study bacterial flora in peptic ulcer perforation.

RESULT AND DISCCUSSION

In our study, we studied 80 patients admitted with peptic ulcer perforations we found that there were 69 male presewhile only 11 females amounting to 86.25 and 13.75% respectively leading to male to female ratio 6.26:1

The very low percentage of female population due to great difference in the habits social, cultural and economical activities .This is similar to Studies of SVANESC et al 1993

According to love and bailey textbook male to female ratio Is 8:1 .

AGE DISTRIBUTION in present study found that age group 21-40 yrs, is common age grouptotal 33 cases that 1.25% presented with peptic ulcer perforation .This is supported by studies of Jastaniah's et al (1997), Dr.Umarfarooq et al 2004,Shankar Arveen et al 2009,

CLINICAL PRESENTATION in present study it is found that all 80 patient of peptic ulcer perforation presented with the pain in abdomen as a commonest symptom that is in 100% patient and vomiting was second most common complaint obsereved in 27.50% of the study population while tachycardia, tenderness, guarding and rigidity of abdomen were main sign .our observations are comparable with various other studies. In study by A Hannan et al 2005, reported 67% of patient presented with abdomen distension being common symptom but in our study abdominal distension found in 22 patients that is. 27.5%.Low incidence in this aspect due to might be due to early insertion of nasogastric tube insertion .Time interval of presentation and the complication was correlated in our study and found that 51 patients that presented with in 24 hrshd minimum complications that is occurred in 2 cases only i.e. 7.14% while 19 cases arrived after 48 hrs out of which 12 cases i.e.16.15 %had complications.

PAST HISTORY of peptic ulcer disease was seen in 41.25% of total patients, while 10 cases i.e. 12.50% had history of ingestion of NSAIDS and 46.25% of cases were asymptomatic and first diagnosed as peptic ulcer after perforation. Our study results found similarities with Jastaniah S et al (1997) who noted 33.3% of his patients received some form treatment at one time or other before perforation and 66.7% of his patients were asymptomatic.

ROLE OF ADDICTIONS: In our study it is found that association of smoking was present in 37 cases and 22 patients found to be alcoholic amounting to 46.25%, and 27.50% of study population respectively .Smoking Inhibits pancreatic bicarbonate secretion, resulting in increased acidity in the duodenal bulb .And it also inhibits the healing of duodenal ulcers evaluated endoscopic ally; irrespective of the form of treatment, there is 20% reduction in the healing rate in smokers. Our study is supported by Anderson IB et al(2001),who assessed smoking more than 155 cigarettes per day compared with never smoking increases the risk of perforated ulcer more than three fold .

PERITONEAL FLUID CULTURE Bacterial growth occurred in peritoneal fluids of patients who underwent exploration after 48 hours; E.Coli being the commonest organism found in peritoneal fluids in our study amounting to 33.75%,along with it k.pneumoniae, polymicrobial and fungus also found in culture of peritoneal fluid .53.75% of total study population have sterilr peritoneal fluids on culture as these patients undergone exploration within 48 hours.

INVESTIGATIONS used in our set up is x ray erect abdomen and chest in all patients out of which 71 patients i.e. 88.75% showed gas under

diaphragm and 9 patients i.e. 11.25% do not have gas under diaphragm. This was supported by J.lemaitre et al (2005), who reported free gas under diaphragm on 47.20% of plain abdominal films on retrospective study, and, on 71% plain film in prospective collected data.

SITE OF PERFORATION in our study found to be duodenum in majority cases amounting to 76.25% of total study population, followed by prepyloric site of stomach amounting to 22.50% and least common site was gastric fundus seen in a single case i.e.1.25%.This is also found in studies of Svanes C et al, who reported most perforation were found in duodenum in 1935-64,and in the pyloric and prepyloric area in 1965-90.

SURGICAL MANAGEMENT in present study adopted most commonly was simple closure with omental patch in 96.25% while simple closure in only 1 cases .surgical procedure adopted in present study was comparable to studies of Kocer B et al ,(2007) performed simple closure in 257 (95.5%)patients ;12 patients (4.5%)underwent definitive operations. Nuhu A, Kassama Y,(2008)performed most common procedure i.e. simple closure of perforation with omentum (after graham)in 29 (70.7%) cases, while definitive peptic ulcer surgery was done in 12 (29.3%) patients .There is continuing debate in literature regarding preferred

surgical procedure like partial gastrectomy with reconstruction by Billroth 1 and Billroth 2,vagectomy,antrectomy,gastrostomy ,each of these procedures has its own morbidity that may add up significantly to alter the final outcome of the patient ,and more importantly ,none of them is immune to the risk of leak in postoperative period, which has been the main concern against performing the omental patch in larger perforations .

COMPLICATIONS out of 80 patients in our study 18 patient had complications of which,5 presented with single and 13 presented with multiple complications .Most common complication was found to be wound infection seen in 13 cases i.e.72.23% while least burst abdomen seen in 3 cases i.e.16.67%.Respiratory infection is earlier to occur while wound infection, burstabdomen, intraabdominal abscess and fistula were late presenting complications. Sankar Arveen et al (2009), reported 85 (25.91%) patients had postoperative complications .wound infection and intrabdominal abscess were encountered in 12.55 and 13.4% of patients respectively. Gu[ta bs (2003) reported chest infection as commonest complication in 44% cases. This marked reduction in complications in present study can be explained by better antibiotic coverage ,meticulous preoperative care ,proper resuscitation of patients before operations, improved anaesthesia and somewhat better hospital environment ,though some risk factors for complications persist like late presentation ,elderly patient.

MORTALITY IN present study 8 patient i.e. 10% died out of 80 patients. out of 8 patients 5 had gastric perforation of total 19 cases of gastric perforation amounting to 26.31% and 3 had duodenal perforation out of total 61 cases of

duodenal perforation amounting to 4.91% .shock was responsible for death of 7 patients out of 15 patients presented with shock and 1 patient died without shock of remaining 65 cases. Morbidity and mortality were mainly depends upon factors such as advancing age,delay in presentation and operation ,size of perforation, shock .N Werbin et al reported high death rates in cases of perforation of duodenal ulcer in patients above 70 years of age .Gaurav et al (2000),had done a descriptive longitudinal study in 30 cases and found that morbidity and mortality is much higher in gastric perforation and late presenting cases

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Table 1 Distribution According To Sex table 2 Distribution According To Age

SEX	NO.OF CASES	PERCENTAGE
MALE	69	86.25%
FEMALE	11	13.75%

AGE IN YEARS	NO.OF CASES	PERCENTAGE
UPTO 20	2	2.50%
21-40	33	41.25%
41-60	29	36.25%
61-80	16	20.00%

Table 2 Clinical Presentation (Symptoms)

SYMPTOMS	NO.OF CASES(n=80)	PERCENTAGE
PAIN	80	100.00%
VOMITING	22	27.50%
FEVER	17	21.50%
DISTENSION	22	27.50%
BOWEL COMPLAINTS	14	17.50%
URINARY COMPLAINTS	5	6.25%

Table 3 Clinical Presentation (Signs)

SIGNS	NO.OF CASES	PERCENTAGE
TACHYCARDIA	36	45.00%
HYPOTENSION	15	18.75%
TENDERNESS	80	100.00%
GUARDING	80	100.00%
RIGIDITY	75	93.75%
OBLITERATION OF LIVER DULLNESS	59	73.75%

Table 4 Co-Relation Of Time Interval Of Presentation And Complications

DURTION OF PRESENTATION	NO.OF CASES	COMPLICATIONS	PERCENTAGE
<12 HRS	23	0	0.00%
12-24 HRS	28	2	7.14%
24-48 HRS	10	4	40.00%
>48 HRS OR LATE	19	12	63.15%

Table 5 Co-Reation Of Peptic Ulcer Disease/Ingestion Of Nsaids With Peptic Ulcer Perforation

PAST HISTORY	NO.OF CASES	PERCENTAGE
SYMTOMATIC	43	53.75%
PAST HISTORY OF PUD	33	41.25%
PAST HISTORY OF NSAID	10	12.50%
PAST HISTORY OF BOTH	9	11.25%
ASYMPROMATIC	37	46.25%

Table 6.Co-Relation Of Smoking/Alcoholism With Peptic Ulcer Perforation

HABITS	NO.OF CASES	PERCENTAGE
SMOKING	37	46.25%
ALCOHOLISM	22	27.50%

Table 7.Common Organisms In Peritoneal Fluid Culture

ORGANISM	NO.OF CASES	PERCENTAGE
STERILE	43	53.75%
E.COLI	27	33.75%
K.PNEUMONIAE	5	6.25%
POLYMICROBIAL	2	2.50%
FUNGUS	3	3.75%

Table 8 Investigations

INVESTIGATIONS		NO.OF CASES	PERCENTAGE
Gas under diaphragm	PRESENT	71	88.75%
	ABSENT	9	11.25%

Table 9 Site Of Perforation Table

SITE		NO.OF CASES	PERCENAGE
GASTRIC	PREPYLORIC	18	22.50%
	FUNDIC	1	1.25%
DUODENUM		61	76.25%

Table-10 Surgical Procedure

PROCEDURE	NO.OF CASES	PERCENTAGE
SIMPLE CLOSURE	1	1.25%
SIMPLE CLOSURE WITH OMENTAL PATCH WITH DRAIN	77	96.25%
DRAIN	2	2.50%
CLOSURE WITH VAGOTOMY	-	-
CONSERVATIVE	-	-

Table 11.Morbidity

MORBIDITY	NO.OF CASES	PERCENTAGE
WOUND INFECTION	13	72.23%
RESPIRATORY INFECTION	9	50%
BURST ABDOMEN	3	16.67%
INTRA ABDOMINAL ABSCESS	4	22.24%
FISTULA	4	22.24%

Table 12 Mortality

RESULTS	NO.OF CASES	PERCENTAGE
RECOVERY	72	90.00%
DEATH	8	10.00%

Table 13 Correlation of Presence of Shock With Mortality

SHOCK	NO.OF CASES	MORTALITY	PERCENTAGE
PRESENT	15	7	46.67%
ABSENT	65	1	1.54%

CONCLUSIONS

1. Pain in abdomen, guarding and rigidity was commonest clinical feature while least was urinary symptoms and hypotension.
2. Commonest complication was wound infection and respiratory infection
3. Overall mortality in study was 10%.
4. Advancing age,pre-operative shock,size and site of perforation,delay in presentation and operation were associated with high mortality
5. Simple closure with Omental patch with Drain was commonest surgical procedure adopted
6. E.Coli was commonest organism found in peritoneal fluid Culture.

BIBLIOGRAPHY

1. Schwartz"s Principles os Surgery .8th Edition.Page No 953

2. Behman SW Management of Peptic Ulcer diseases :Arch search 2005;140/201/8/
3. E.Cases of Perforation of Stomach.Lancet1843 ;1:639
4. Anderson IB Gorgensen T, Boonnevie O, Et al. Smoking and alcohol as risk factors for Perforated Peptic ucers; A Population based Cohort study ,Epidemiology 2000;11:434:9
5. LORAND I. MOLINIER N SALES JP,Douchezf, Gayralf: resultats dutraitement Celioscopique Des Ulceres Perfoeres Chirurgie 1999,124/149/53
6. Wangsteen OH .Non-operative treatment of localised perforations of the Duodenum; Proc Minn Acad Med 1935;18;477-80
7. Mickulicz. J. Ueber laparotomy beiMagen and Darm perforation. Samml kiln vort Leipzig 1885;262:2307-15
8. Cellan –jones CJ.A rapid method of perforated duodenal perforated duodenal ulcer .Br med J 1929;1:1076
9. Graham RR.The treatment of perforated duodenal ulcers. SurgGynecolObsest 1937;64 :235-8
10. SharmaD.Saxena A,Rahman H,Raina VK ,Kapoor JP. freeomental plug : a nostalgic look to an old dependable technique for giant peptic perforations. DigSurg 2000;17:216-8