

A Study of Incidence of Peptic Perforation.

Kamlesh Kumar Dhruv¹, Pradeep Pande², Kamal Singh Kanwar¹

¹Assistant Professor, Department of Surgery, Late BRKM Govt. Medical College, Dimrapal Jagdalpur, (C.G.).

²Associate Professor, Department of Surgery, Late BRKM Govt. Medical College, Dimrapal Jagdalpur, (C.G.).

Received: December 2019

Accepted: December 2019

Copyright: © the author(s), publisher. It is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Perforation is the most serious, the most fatal and one of the commonest complication of all gastric and duodenal ulcers and occurs in about 10 to 15% of all recognized chronic peptic ulcers. The objective was to study the incidence of Peptic Perforation. **Methods:** A hospital based Study was carried out from 1997 to 1999 for a period of 2 years in the Department of surgery of Hamidia Hospital Bhopal. A total of 118 consecutive cases of peptic perforation, particularly dealing with their clinical manifestations and management were studied. The Permission from Institutional Ethics Committee was obtained. **Results:** The number of cases of benign gastro duodenal ulcer perforation in case of smoking is 84 (54.54%) and in alcoholics 28 (18.18%). Out of 123 patients in hard labourer group 82 were cultivators who worked themselves hard in the field. Except 14 all patients belonged to lower or lower middle class. Severe dehydration were seen in 39 cases, moderate dehydration in 54 cases and in 61 cases dehydration was absent whereas in malignant ulcer perforation, severe dehydration were seen in only 1 case. **Conclusion:** The present series consisted of 154 cases of acute benign gastro- duodenal ulcer perforations and one case of acute malignant ulcer perforation admitted in the Hamidia Hospital associated with Gandhi Medical College, Bhopal during the year 1999. The average age incidence in females was 2 years higher than that in males. Close follow- up at interval of three months is recommended for every case of perforation treated by simple suture.

Keywords: Peptic perforation, Incidence, Risk factors.

INTRODUCTION

Perforation is the most serious, the most fatal and one of the commonest complication of all gastric and duodenal ulcers and occurs in about 10 to 15% of all recognized chronic peptic ulcers. Perforation is one of the most dramatic events occurring as an acute emergency. For the patient and the surgeon it is perhaps, still one of the pathologies which require only surgical intervention and no other modality of treatment can correct it.^[1]

Sudden rupture of ulcer or sloughing of its base is followed by escape of gastric contents into the peritoneal cavity and peritonitis results 90% of the perforations are duodenal and perforation of an ulcer near the cardia is usually rare. Majority of the patients of perforation give history of previous ulcer symptoms. Clinical feature are dramatic. The previous history of indigestion and pain is available in 80% of cases.^[2]

Due to this, treatment by simple suture is gradually being replaced by partial gastrectomy in most of the advanced clinics. Number advocated partial

gastrectomy as the method of choice in all fit patients on the ground of lower mortality than simple suture and evidence of chronically on histopathological examination in all cases of perforation. Emmott & Owen (1953) and Maynard and Prigot (1971) advocated it on the same ground.^[3]

MATERIALS AND METHODS

Study of 118 consecutive cases of peptic perforation, particularly dealing with their clinical manifestations and management. All cases were admitted in the Department of surgery of Hamidia Hospital Bhopal from 1997 to 1999 i.e. for a period of 2 years. Only those patients, in whom the diagnosis of perforation was confirmed at operation, have been included in the series. Only gastric and duodenal perforation has been included in the present study. Traumatic perforations have been excluded.

The diagnosis of peptic ulcer perforation in this series was based on clinical history, physical examination and operative findings.

Cases of this series were examined in the following manner: Registration of patient in which time and date, when the patient presented in the surgical emergency was noted. Their name, age, sex, religion, marital status, presence or absence of pregnancy in case of females, occupation and place of residence were noted. In case the patient was in

Name & Address of Corresponding Author

Dr. Pradeep Pande,
Associate Professor
Department of Surgery,
Late BRKM Govt. Medical College
Dimrapal Jagdalpur, (C.G.).

severe shock or agitated, information about his/ her condition at home was obtained from attendants. Socio-economic status, Duration of illness, Presenting complaints, History of present illness, past history, Personal history, Family history, General examination, ASA Grade (American Society of Anesthesiologists), Systemic examination of patient, Local examination of patient and investigations.

RESULTS

Table 1: Incidence of Perforation in relation to Smoking and Alcohol drinking

Personal Habits	Benign Gastro-duodenal Ulcer Perforation		Malignant Ulcer Perforation Number of Patients
	Number	Percentage	
Smoking	84	54.54%	0
Alcoholics	28	18.18%	0

[Table 1] shows incidence of perforation in relation to smoking and alcohol drinking. The number of cases of benign gastro duodenal ulcer perforation in case of smoking is 84 (54.54%) and in alcoholics 28 (18.18%).

Table 2: Incidence of Perforation in relation to different Occupations

Occupation	Benign Gastro-duodenal Ulcer Perforation		Malignant Ulcer Perforation Number of Patients
	Number	Percentage	
Hard labourers	123	79.87%	
Light labourers	25	16.23%	1
Sedentary	7	4.54%	
No work	0	0%	

Table 3: Incidence of Perforation in Relation to Previous Ulcer Symptoms

Duration of Symptoms	Benign Gastro-duodenal Ulcer Perforation		Malignant Ulcer Perforation Number of Patients
	Number	Percentage	
No previous symptoms	104	67.53	
< 1 week	2	1.29	
1 week – 1 month	6	3.89	
>1 month – 1 year	19	12.33	
>1 year -2 years	5	3.24	1
>2 years -5 years	4	2.59	
>5 – 10 years	2	1.29	
>10 – 15 years	1	0.65	
>15 – 20 years	1	0.65	
>20 – 25 years	1	0.65	

Out of 123 patients in hard labourer group 82 were cultivators who worked themselves hard in the field.

Except 14 all patients belonged to lower or lower middle class.

Table 4: Incidence of Perforation in relation to Fullness of Stomach

The State of Stomach	Benign Ulcer Perforation		Malignant Ulcer
	No of Cases	Percentage	
Empty (Took meal before 6 hours of more)	102	66.23	1
Full (Had meal within 6 hours of perforation)	52	33.76	

[Table 4] shows the Incidence of Perforation in relation to Fullness of Stomach.

In case of empty stomach the percentage of Benign ulcer perforation was 66.23 and in case of full stomach it was 33.76.

Table 5: Incidence of Site of Pain at the Time of Onset of Perforation

Site of Onset of Pain	Benign Ulcer Perforation		Malignant Ulcer Perforation
	No of Cases	Percentage	
Epigastrium	123	79.87	1
Right hypochondrium	6	3.89	
Left hypochondrium	3	1.94	
Right lumbar region	3	1.94	
Umbilical region	8	5.19	
Left iliac fossa	1	0.65	
Right iliac fossa	10	6.49	
Total	154	100	1

Table 6: Incidence of Dehydration in Patients of Perforation

Dehydration present or absent	Benign Ulcer Perforation		Malignant Ulcer Perforation
	No of Cases	Percentage	
Severe	39	25.32	1
Mild/ Moderate	54	35.06	0
Absent	61	39.61	0
Total	154	100	1

Table 7: Incidence of Respiration rate in patients of Perforation

Respiration rate per minute	Benign Ulcer Perforation		Malignant Ulcer Perforation
	No of Cases	Percentage	
18 – 24	89	57.79	
25 – 36	60	38.96	1
Above 36	5	3.24	
Total	154	100	1

[Table 6] shows the Incidence of Dehydration in Patients of Perforation .Out of 154 cases of Benign ulcer perforation, Severe dehydration were seen in 39 cases, moderate dehydration in 54 cases and in 61

cases dehydration was absent whereas in malignant ulcer perforation, severe dehydration were seen in only 1 case.

[Table 7] shows the Incidence of Respiration rate in patients of Perforation.

Out of 154 cases of Benign ulcer perforation, 18-24 respiratory rate were seen in 89 cases, 25 -36 in 60 cases and in 5 cases respiratory rate is above 36. whereas in malignant ulcer perforation, only 1 case were seen with respiratory rate of 25 -36.

Table 8: Incidence of grade of Blood pressure in Patients of Perforation

Systolic blood pressure in mmHg	Benign ulcer Perforation		Malignant Ulcer Perforation
	No of Cases	Percentage	
100 and above	107	69.48	
81 – 99	23	14.93	
80 and below	3	1.94	
Non - recordable	18	11.68	1
Total	154	100	1

Table 9: Incidence of Shock in Patients of Perforation

Shock Present or absent	Benign Ulcer Perforation		Malignant Ulcer Perforation
	No of Cases	Percentage	
Present	21	13.63	1
Absent	133	86.36	0
Total	154	100	1

[Table 9] shows the Incidence of Shock in Patients of Perforation.

Out of 154 cases of benign ulcer perforation shock present in 21 cases and absent in 133 cases whereas in case of malignant ulcer perforation only in 1 case shock was present.

Table 10: Incidence of Pneumo- peritoneum in Perforation

Particulars	Benign Ulcer Perforation		Malignant Ulcer Perforation
	No of Cases	Percentage	
Gas under the diaphragm present	142	92.2	1
Gas under the diaphragm not present	8	5.19	0
X- ray not done(due to non-availability/ Shortage of x- ray plates)	4	2.6	0
Total	154	100	1

[Table 10] shows the Incidence of Pneumo- peritoneum in Perforation.

Out of 154 cases of benign ulcer perforation, Gas under the diaphragm present 142 cases, Gas under the diaphragm not present in 8 cases, x- ray not done in 4 cases whereas in malignant ulcer perforation only 1 case of Gas under the diaphragm present.

DISCUSSION

Observations made on benign and malignant ulcer perforation are discussed separately.

Gilmour and saint (1932) found the highest incidence in male in the age group of 30 – 39 years and in females in the age group 40 – 49 years and 20 – 29 years.^[4]

Recently Burkitt (1962) found the highest incidence in the age of 50 – 59 years and slightly less than this in the age group of 40 – 49 years.^[5]

Christopher Strang and Spencer found the highest incidence in the month of April and January while lowest in September and August. Turner found the highest incidence in October and January while lowest in April and July and Ingrain and Ervin (1952) found the highest incidence in August and lowest in February.^[6]

Hastings and Machida found that 30% complication were related to G.I.T. 30% to wound, 22% pulmonary, 18% cardiac and others.^[7]

Perforation incidence faithfully changes in chronic ulcer incidence so it seems possible to use perforation incidence as an indicator of total ulcer numbers.^[8]

Several factors may influence rates of peptic ulcer perforation. For one, epidemiological studies have demonstrated that birth –cohorts born up to the 1930s were at higher risk of acquiring peptic perforated ulcer than later birth cohorts.^[9]

German paper from 2005 ohmann et al found no difference in the incidence of peptic ulcer bleeding when comparing the years 1989 and 1999 despite significantly higher NSAID consumption in the latter year.^[10]

CONCLUSION

The present series consisted of 154 cases of acute benign gastro- duodenal ulcer perforations and one case of acute malignant ulcer perforation admitted in the Hamidia Hospital associated with Gandhi Medical College, Bhopal during the year 1999.

Benign ulcer perforations were most common in the age group of 30 – 39 years and 40 – 49 years. The average age incidence in females was 2 years higher than that in males. The average age in cases of gastric ulcer perforation was also 8.8 years higher than in cases of duodenal ulcer perforation.

Benign ulcer perforations were 7. 11 times more common in males than female.

Mental stress and strain, infections, exposure to cold and damp weather, fatigue, alcoholism and therapy of cortisone appeared to be precipitating factors for perforation.

Most common post- operative complications were infection and disruption of wound, peritonitis and shock. Most lethal complications were peritonitis, shock and re – perforation.

About 12% of patients had recurrence of ulcer symptoms within 2 to 15 months of simple suture

operation for perforations. The recurrence depended directly on the duration of ulcer symptoms before perforation. 100% recurrence of ulcer symptoms was found in patients who had previous ulcer symptoms for 5 years or more. The recurrence was slightly lower in patients above age of 45.

Close follow-up at interval of three months is recommended for every case of perforation treated by simple suture. In case of recurrence of ulcer symptoms failing to respond medical treatment, gastro- jejunostomy and truncal vagotomy is recommended.

REFERENCES

1. Ian Arid (1957). A Companion in Surgical Studies, Second Edition, E.S. Livingstone Ltd. Edinburgh & London.
2. Bailoy & Lovo "s Shorts Practice of Surgery. Thhrtoon Edition, H.K Lewis & Co. Ltd, London. British journal Surgery 1989, 76 (march): 230 – 236.
3. Maynard A del.Froix CJL, Oropeza G Gastro duodenal perforation Arch Surg.
4. Gilmour, J & Saint, JH (1932), Brit. J. Surg. 20, 78.
5. Burkitt, R. (1962) Post Grend Mod. J. 38, 576.
6. Ingram, I.H. & Ervin, J.R. (1952) Am. J.Surg. 84, 30.
7. Hastings, H, and Machiodo, R. (1961) Am.J. Surg.102, 136.
8. R.Sanders.Incidence of Perforated duodenal and gastric ulcer. BMJ Journal. 1961; Vol 8(1):p58 -61.
9. Kenneth Thoren, Jon Arne Soreide.Epidemiology of perforated peptic ulcer: Age and Gender adjusted analysis of incidence and mortality. World General of Gastroenterology.2013; Vol19 (3) p345-54.
10. Michael Hermansson, Anders Ekedahl. Decreasing Incidence of peptic ulcer complications after the introduction of proton pump inhibitors, a study of the Swedish population. BMC Gastroenterology Research article.2009; Vol 9: 25.

How to cite this article: Dhruv KK, Pande P, Kanwar KS. A Study of Incidence of Peptic Perforation. Ann. Int. Med. Den. Res. 2020; 6(2):SG26-SG29.

Source of Support: Nil, **Conflict of Interest:** None declared