

ORIGINAL RESEARCH

A Prospective Study of 50 Cases of Peptic Perforation in Rural AreaShantanu Kulkarni¹, Padmaja Havle², Pratap Varute³, Vasundhara Varute⁴**ABSTRACT**

Background: Diffuse peritonitis is still a dreaded condition and has a high mortality and morbidity. Aim of the study peptic perforation in rural area.

Material and Method: 50 consecutive cases of peptic perforation admitted as surgical emergency in rural area hospital over a period of 2 years were studied.

Result: Peptic perforation was commonly seen in 4th & 7th decade of life with male preponderance. Simple closure of perforation was effective enough in most cases. E.Coli was the commonest organism. Mortality is usually due to septicaemia and septic shock. Morbidity was 44% in cases who reported for regular follow-up.

Conclusion: Surgical intervention is the treatment of choice in peptic perforation. Result and outcome depends upon time interval between perforation and admission hence operative treatment. It is seen more in men due to their habits of alcohol, smoking, tobacco chewing and eating spicy food. This also leads to increased post operative morbidity.

Keywords: Acid peptic disease; Peptic perforation; Perforative peritonitis; Septicaemia; Septic shock.

How to cite this article: Shantanu Kulkarni, Padmaja Havle, Pratap Varute, Vasundhara Varute.. A prospective study of 50 cases of peptic perforation in rural area. International Journal of Contemporary Medical Research 2015;2(3):722-725

¹Associate Professor, Department of Surgery, ²Assistant Professor, Department of OBG, Krishna Institute of Medical Sciences, Deemed University, Karad, ³Assistant Professor, Department of Surgery, ⁴Assistant Professor, Department of E.N.T., D. Y. Patil Medical College, Kolhapur, Maharashtra State, India

Corresponding author: Dr. Shantanu Kulkarni, Chiranjeev Hospital, 206, Mangalwar Peth, Karad, Dist. Satara, Maharashtra, India.

Source of Support: Nil

Conflict of Interest: None

INTRODUCTION

The evidence of acute abdomen is documented in the

literature from the time of Hippocrates 400 BC who described Hippocratic facies in the terminal stage of peritonitis.¹ Diffuse peritonitis is still a dreaded condition and has a high mortality and morbidity.² The surgical treatment of acute abdomen truly become a practical solution after introduction of anaesthesia. There is definite improvement in prognosis with surgery as 20% mortality in 1940 was reduced to 3% in 1973.³ Some advocate definitive treatment for duodenal ulcer along with closure of perforation.⁴ This definitive treatment depends upon duration of perforation, size of perforation, general condition of patient, availability of surgical expertise and hospital set up for same. Conservative management is not given as opinion is changing towards surgical treatment.⁵ In the present study an attempt is made to diagnose the cases correctly with the help of clinical data, findings and relevant simple, cheap investigations available in this hospital in rural area. Aims and Objectives of the study were to study peptic perforation in rural area, to determine whether only simple closure of perforation is effective treatment in peptic perforation, to study morbidity and mortality in peptic perforation and to know how many patients require further definitive treatment.

MATERIAL & METHOD

A prospective study of 50 consecutive cases of peptic perforation admitted in surgical emergency ward with acute abdomen to a hospital in rural area over a period of two years was done in detail. Institutional ethical committee approval was taken before starting the study. After admission detailed history and thorough clinical examination was done. Routine blood, urine examination and erect x-ray abdomen was done in all patients. In addition, blood sugar, urea, creatinine, electrolytes, amylase and USG Abdomen was done as required. After diagnosis, line of treatment was decided whether conservative or operative after considering age, etiology, duration of symptoms, general condition of patient and associated illness. We treated all 50 cases surgically. After opening abdomen, peritoneal fluid was collected in sterile tube and sent for culture and sensitivity test. Stomach and duodenum were inspected, per-

foration was identified and treated surgically according to it's individual merit. After discharge patients were asked to stop their habits of alcohol, smoking, tobacco chewing & eating spicy food. They were asked to take antacid for three months post discharge. All the patients were asked to come for regular follow up in surgery OPD for a minimum of 1 year.

STATISTICAL ANALYSIS

Results were computed as percentages of total participants. Also data was internally compared for age, gender, site of perforation, clinical presentation, organ-ism, hospital stay and outcomes were also compared accordingly and was tabulated.

RESULT

Incidence

Duodenal ulcer perforation was seen in 46/50 cases (92%) while gastric ulcer perforation was seen in 4/50 cases (8%).

Age & Sex

Maximum cases of peptic perforation were seen in the 4th decade 17/50 (34%). The youngest patient was 20 years old and eldest 70 years old. Male preponderance was seen. (See table 1).

Age (years)	Cases	Male	Female
11-20	1	1	0
21-30	8	6	2
31-40	17	15	2
41-50	7	7	0
51-60	8	8	0
61-70	9	9	0
Total	50	46	4

Table-1: Age & sex distribution in Peptic perforation

Interval between symptom and admission

A 35 year old male patient got admitted within 2 hours of symptoms while a 60 year old male patient got admitted 8 days after symptoms. 33/50 (66%) patient were admitted within 24 hours while 2/50 (4%) after 72 hours of symptoms.

Clinical Presentation

Pain in abdomen with tenderness and guarding (localised/generalised) were the commonest clinical presentation. (See table 2).

Clinical signs & symptoms.	Cases	%
Pain	50	100
Vomiting	30	60
Constipation	13	26
Distention of abdomen	25	50
Fever	4	8
Tenderness	50	100
Guarding	49	98
Rigidity	49	98
Obliteration of liver dullness	38	76
Absent peristalsis	34	68

Table-2: Clinical presentation in peptic perforation

12 patients had sluggish peristalsis and 4 had normal peristalsis. Only 3 patients had tenderness on PR examination.

Diagnosis

Plain x-ray erect abdomen and USG of abdomen were very helpful in confirming the diagnosis of perforation and aided in treatment. Gas under diaphragm was seen in 98% (49/50) cases.

Mode of treatment

All 50 patients underwent surgery. Simple closure of perforation with omentoplasty was the treatment of choice done in 88% (44/50) cases. One patient had multiple and big perforations which occurred post meals. He underwent gastrojejunostomy while in 5 patients with small single perforation underwent only closure of perforation. (See picture of duodenal ulcer perforation).



Figure-1: Duodenal Ulcer perforation

Culture and Sensitivity (c/s)

Culture and sensitivity of peritoneal fluid was done in

all 50 cases of which 48% (24/50) were sterile. E.Coli was the commonest organism. In some cases more than one organism were found. (See table 3).

Organisms	Cases	%
E. Coli	14	28
Klebsiella	3	6
Gram -ve bacilli	3	6
Gram +ve cocci	3	6
Staph. Coagulase	1	2
Non-haemolytic strep.	1	2
Haemolytic strep.	2	4
Pus cells	2	4
Sterile	24	48

Table-3: Organisms in peptic perforation

Post operative complications

Were wound infection 12% (6/50), wound gaping 4% (2/50), Septicaemia 4% (2/50), Subdiaphragmatic residual abscess with hiccough 2% (1/50) and CCF with septicaemia 2% (1/50).

Hospital stay

Was 10 days in cases with no post operative complication and 15-29 days in cases with some post operative complication.

Mortality

Was seen in 2 patients. One patient who presented late, died due to septicaemia and septic shock. The other patient was a known case of chronic heart disease and he died due to CCF and septic shock. Hence we conclude that mortality increased if duration between symptom and admission increased and if patient has associated illness which compromised his immunity and general condition.

Follow up findings

All the surviving patients were followed up for a minimum of 1 year post discharge. At discharge, all of them were explained about their illness and advised to take antacids for 3 months, stop all their habits. They were also advised to take balanced diet, regular exercise and adequate rest. Of the 48 surviving patients, 45 attended regularly for follow up while remaining 3 were lost to follow up. Of these, 15 patients complained of abdominal pain & 5 patients complained of malena. So, 20/45 (44%) had postoperative complaints. Minhas observed that symptom persisted in only 35% of patients after simple closure and only 2% required re-operation.⁸ 15

patients underwent gastroscopy. 8 had duodenitis, 4 had gastritis, 2 were normal and one had active ulcer. 3 patients were advised to undergo vagotomy and gastrojejunostomy for their intractable abdominal pain. But one patient refused. Others were advised medical line of treatment, stop alcohol, tobacco, smoking & spicy food.

DISCUSSION

Duodenal perforation is one of the most commonest cause of diffuse peritonitis; prompt recognition of which is of paramount importance. On one hand this is very serious if untreated but on the other hand it is quite successfully controlled when properly treated. The treatment of acute perforated peptic ulcer is still a subject of controversy. "The controversy mainly concerns the surgical procedures to be used, either simple suture of perforated lesion or some definitive surgery" - R.C. Caneviva et.al.⁹ It is time to resolve the controversy for the moment; we believe that the man on the spot should content himself with adequate resuscitation of the patient and the simple closure of the perforation.¹⁰ "We have no responsibility than to save their lives. Any procedure of mere extensive character can quite justifiably be considered as meddling surgery" - R.K. Graham.¹¹ Finney had said in 1900, "The only rationale treatment of perforation is surgical operation and to this there is no contraindication to save a moribund patient".^{6,7} Peptic perforation occurred commonly in the 4th decade of life. Similar findings were found by J. Bhatt and S.C. Gupta in their study.¹² Peptic perforation is common in men due to alcoholism, tobacco chewing, cigarette smoking, eating spicy food and stress. The reported incidence varies from 88% to 91%. In our study it was 92%. However in recent years there is increase in incidence in female population there by decreasing the male to female ratio. In our study the male to female ratio was 11.5 : 1 (46:4) Similar findings were found by Goswamy¹³, S.K. Banerji¹⁴ A.K.Choudhari¹⁵, P.C. Bornman¹⁶ and R.M. Hodnett¹⁷ in their respective studies. (See table 4)

Because of rural area, patients present to the hospital late. Radio sono diagnosis is simple, non invasive, easily available and cost effective in rural area like ours. It has a high diagnostic accuracy hence very useful in diagnosis and treatment. All patients were treated surgically but result and outcome depended on the interval between perforation and admission to surgery, age, general condition of patient, amount of peritoneal contamination and associated illness. The prognosis is poor in patients with multiple, large peptic perforations occurring post meals and in patients with associated

illness. We had two deaths in our study. 44% patients required further treatment during follow up of which only three were advised definitive surgery. Others were advised to take medicines and stop their habits.

Series	Male	Female
Goswamy	48	2
S.K. Banerji	58	2
A.K. Choudhari	106	30
P.C. Bornman	86	27
R.M. Hodnett	134	68
Present series	46	4

Table-4: Sex distribution in peptic perforation in various series studied

CONCLUSION

Peptic perforation is commonly seen in 4th and 7th decade of life in males and in duodenum. Abdominal pain and guarding are the clinical presentations seen. Erect x-ray abdomen is highly accurate, cost-effective, non-invasive & easily available diagnostic tool in rural area like ours which helps in treatment. Simple closure of perforation with omentoplasty is adequate treatment in maximum cases in our set up. E.Coli is the commonest organism found in peritoneal fluid. Mortality increases with age, poor general condition, associated illness, hypotension at admission, delay in admission & hence surgery, cause & extent of peritoneal contamination. Morbidity is more in patients who did not change their old habits.

ACKNOWLEDGEMENT

Authors would like to express their gratitude towards Dept. of Surgery, KIMSDU, Karad for providing constant support for the research.

REFERENCES

1. K. Das. 'Examination of an acute abdomen' – clinical methods in Surgery, 8th edn.
2. Lord Moynihan : Acute perforation cited by Henry Horkins in Surgery of stomach and duodenum. 640, 1966.
3. Bird C. E. Lumper and Meyer, 'Study of perforated peptic ulcer, A comprehensive review of literature'. June – 1988.
4. Booth A.D. and Williams J. A. 'Mortality of perforated D.U. treated by simple suture', Brit. J. Of surg. 1971;58:42-45.
5. Wright A.E. On the association of serious haemorrhages with conditions of defective blood-coagulability. Lancet 1896;2:807-809,
6. Carpenter C.C.J. Acute Infection, diarrhoeal diseases and bacterial food poisoning in Harrison's principles of internal medicine 11th edn. Vol1, 502-506.
7. Isselbacher K.J. Disorders of gastro-intestinal system in Harrison's principles of internal Medicine, 11th edn. Vol. II.
8. Simpson CJ, Lamont G. McDonald I. Smithl.S: Effect of cimetidine on prognosis after simple closure of perforated duodenal ulcer, British J. Surg. 1987; 74:104-105.
9. Ceneviva R. De castro Silva, Single suture with or without proximal gastric vagotomy for perforated duodenal ulcer. Brit. J. Surg. 1986; 73:427-430.
10. Raimes S.A. and Derlin H. B. Leading article-perforated duodenal ulcer. Brith J. Surg. 1987;74: 81-82.
11. Graham R.R. 'The treatment of perforated duodenal ulcer. Surg. of Gyn and Obst. 1987; 64:235-238.
12. J. Bhatt, S.C. Gupta. Vagotomy and pyloroplasty in acute perforated duodenal ulcer Ind. J. Surg. 1988;4: 68-69.
13. V.Kohli, J.C. Langer and B.L. Goswamy : Evaluation of prognostic factors in perforated peptic ulcers. I.J.S. 1988-185.
14. S.K.Banerji: Definitive surgery in duodenal ulcer perforation Ind.J. Surg. 1985;5:427-429
15. A.K.Choudhari. Drainage procedure in duodenal ulcer. Ind-J. Surg 1985 : 430-432
16. P.C.Bornman, N.A.Theodorm, P.C. Jafferey, I.N. Morles, Simple closure of perforated duodenal ulcer, A prospective evaluation of conservative management policy, Brit. J.surg, 1990;77: 73-75.
17. Richard M Hodnett, M.D., Federics Lenzdez, M.D. W. Champon Lee, 'Male preponderance in peptic perforation', Ann. of Surg.1989;209:37-38.