



A Study on Peptic Perforation- Relationship of Operation Time Interval with Mortality

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ABSTRACT

The peptic perforation (PUO) is one of the commonest abdominal surgical emergencies. Common causes are *H.pylori*, increased inadvertent use of NSAIDs, smoking and stress of modern life. During last few years there has been great revolution in availability of the newer broad spectrum antibiotics, better understanding of disease, effective resuscitation, prompt surgery under modern anaesthesia techniques, and intensive care unit resulted in reducing the mortality. However still many risk factors are associated with prognosis, so aim our study to find out the significance of the Perforation-Operation Interval with respect to prognosis, in patients with peritonitis which is caused by peptic ulcer perforation.

Methods: A prospective randomized study was conducted of 50 patients in Smt. NHL Municipal Medical College-Smt SCL Hospital. All were indoor patients with diagnosis of peptic perforation in stomach and/or duodenum excluding other sites. Each patient was study in detail with relevant clinical history, examination, laboratory investigations and management. The perforation-operation interval was calculated from the time of onset of the symptoms like severe abdominal pain or vomiting till the time the patient was operated.

Results: Out of the 50 patients 42 were males and 8 were females, with a male:female ratio of 5.2:1. Their ages ranged between 16-70 years. Out of the 50 patients, 26 patients (52%) presented within 12 hours of the onset of severe abdominal pain (Group A), 13 patients (26%) presented between 12-24 hours of the onset of severe abdominal pain (Group B) and 11 patients (22%) presented after 24 hours. There was no mortality in Group A and the morbidity was more in Group B and Group C. There were 2(4%) deaths in Group C.

Conclusion: The problem of peptic ulcer perforation with its complication, can be decreased by decreasing the perforation –operation time interval, which as per our study, appeared to be the single most important mortality and morbidity indicator in peptic ulcer perforation.

KEYWORDS : Perforated Peptic Ulcer (PPU), Perforation-Operation time Interval

Introduction:

The perforation of stomach & duodenal ulcer is one of the commonest abdominal surgical emergencies. One specific etiological agent cannot be incriminated in the causation of this particular disease.^[1,2,3] Common causes are *H.pylori*, increased inadvertent use of NSAIDs, smoking and stress of modern life. During last few years there has been great revolution in availability of the newer broad spectrum antibiotics, better understanding of disease, effective resuscitation, prompt surgery under modern anaesthesia techniques, and intensive care unit resulted in reducing the mortality.^[2,4,5] The causes of gastro-duodenal perforations can be broadly classified into traumatic and non traumatic factors. The risk factors which influence the mortality after surgery for perforated peptic ulcers are the presence of preoperative shock, the presence of concurrent illnesses and the perforation – operation time interval.^[6,7,8] The morbidity and mortality can be reduced by avoiding the delays in the diagnosis and treatment.^[5,9,10]

Objectives of the Study:

The aims and objectives of this study are to compare between perforation operation interval with age and sex incidence, site of perforation, post operative complication and mortality.

Materials & methods

A prospective randomized study was conducted of 50 patients in Smt. NHL Municipal Medical College-Smt SCL Hospital. All were indoor patients with diagnosis of peptic perforation in stomach and/or duodenum excluding other sites. Each patient was study in detail with relevant clinical history, examination, laboratory investigations and management. The study comprised of total 50 patients operated for peptic perforation by various modalities. In study 3 groups were made. In Group A consider perforation operation interval less than 12 hours, Group B consider interval between 12 to 24 hours and Group C consider interval more than 24 hours.

The selection criteria for the patient were (1) complain of upper abdominal pain (2) on examination- severe epigastric tenderness

(3) X-ray- free gas under dome of diaphragm (4) Ultrasonography of abdomen – mild to moderate free fluid either in pelvis or Morrison pouch (5) per-operative finding- peptic perforation in stomach and/or duodenum.

The selected patients had been operated thereafter in form of different modalities like, (a) simple closure with omental graft^[3] (b) definitive surgery with simple closure (c) laparoscopic closure^[4]. All the patients were observed post-operatively for complications like, paralytic ileus, pulmonary complications, wound infection, septicaemia etc. All the patients were received anti *H.pylori* treatment^[5] post-operatively.

Results and Discussion:

Out of 50 cases age ranged from 16 to 70 years with pick incidence on 5th decade, 42 were male and 8 were female with a male:female ratio of 5.2:1, 37 patients had history of alcoholism and smoking, 17 patients had taking drugs like NSAIDs. The most common symptoms were abdominal pain and vomiting and there was distension of the abdomen in some cases. The most common signs were tenderness, guarding and absent bowel sounds. Out of the 50 patients, 26 patients (52%) presented within 12 hours of the onset of severe abdominal pain (Group A), 13 patients (26%) presented between 12-24 hours (Group B) and 11 patients (22%) presented after 24 hours.

Site of perforation

| Site of perforation | Cases in Group A | Cases in Group B | Cases in Group C | Total |
|---|------------------|------------------|------------------|-------|
| First part of duodenum, anterior wall | 24 | 8 | 9 | 41 |
| Stomach-pyloric antrum, anterior-wall, body of stomach near curvature | 2 | 5 | 2 | 9 |

Perforation of duodenal ulcer at first part of duodenum situated over anterior wall was commonest 82%.

Mortality

| Mortality | Group A | Group B | Group C |
|-------------|---------|---------|---------|
| No of cases | 0 | 0 | 2 |

No mortality in group A and B but in group C 2 cases (4%) are expired.

Post-operative complications:

| Complication | Group A | Group B | Group C | Total |
|------------------|---------|---------|---------|-------|
| Bronchopneumonia | 0 | 2 | 6 | 8 |
| Wound infection | 1 | 3 | 4 | 8 |
| Fever | 0 | 2 | 3 | 5 |
| Paralytic ileus | 0 | 0 | 1 | 1 |
| Reexploration | 0 | 0 | 0 | 0 |
| Death | 0 | 0 | 2 | 2 |

In group A post-operative complication was almost zero. In our study only one patient got wound infection but in group B and C morbidity was more. Post-operative complication was highest in group C. In group B, 2 patient had bronchopneumonia, 3 had wound infection and 2 had fever but in group C, 6 patient had bronchopneumonia, 4 had wound infection, 3 had fever and one patient had features post-operative obstruction which was managed conservatively. Commonest complication was bronchopneumonia and wound infection followed by fever which was increased hospital stay and morbidity of patient.

Conclusion:

The perforation was common between age group of 30-50 years. Perforation was more common in males; it was 84% in males and 16% in females with a male:female ratio of 5.2:1. Perforation of duodenal ulcer at first part of duodenum situated over anterior wall was commonest 82%.

A prompt, correct diagnosis and immediate surgery is of prime importance in patients with perforated peptic ulcers. The mortality rate increases with the length of the interval between the time of the ulcer perforation and the time of the surgery.

The problem of peptic ulcer perforation with its complication can be decreased by decreasing the perforation –operation time interval, which as per our study, appeared to be the single most important mortality and morbidity indicator in peptic ulcer perforation.

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