Original Article

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The Outcome of Operative and Non-Operative Treatment of Duodenal Ulcer Perforation

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Abstract

Introduction: Peptic ulcers are ulcers, occurring in any portion of the gastrointestinal tract (GIT), in which mucosa is bathed in hydrochloric acid (HCl) and gastric juice. Ulcers can develop in the esophagus, stomach or duodenum, at the margin of a gastroenterostomy, in the jejunum, and in association with a Meckel's diverticulum containing ectopic gastric mucosa. *Methodology*: The study was conducted in the Department of Surgery, Basaveshwara Teaching and General Hospital, Gulbarga Karnataka during the period of Nov. 2011 to Sep. 2013. The diagnosis of duodenal ulcer perforation was that established by the admitting surgeon, based on clinical features and supposed by radiological evidence and confined at operation. *Results*: The morbidity rate was 10.17% and the mortality rate was 11.67%. *Conclusion*: Wound infection was common post operative complications

Keywords: Peptic Ulcers; Perforation; Complications.

Introduction

Duodenal ulcer perforation is one of the acute abdominal emergencies in the surgical field. Even though the incidence of peptic ulcer disease has been declining for past 20years and the need of elective ulcer surgery is on decline, neither the incidence nor the need for emergent complications of ulcer (perforation, bleeding, obstruction) have changed during past 15-20 years. Peptic ulcers are ulcers, occurring in any portion of the gastrointestinal tract (GIT), in which mucosa is bathed in hydrochloric acid (HCl) and gastric juice. Ulcers can develop in the esophagus, stomach or duodenum, at the margin of a gastroenterostomy, in the jejunum, and in association with a Meckel's diverticulum containing ectopic gastric mucosa [1]. In older patients, admission rates for duodenal ulcer perforation increased in the last decade. Duodenal perforation currently accounts for approximately 75% of peptic perforation. In a recent study, a postoperative mortality rate of 19% in perforated peptic ulcer patients increased to 41% among the elderly [2].

With the success of medical therapy including potent gastric acid suppressing drugs and antibiotics effective against *Helicobacter pylori*, the need of surgical intervention has decreased drastically in the management of ulcer disease [3]. Nonetheless, surgical operationsremain the mainstay for the emergency treatment of life-threatening aggressive complications (perforation, bleeding and obstruction) in duodenal ulcers at advanced stages.

Methodology

The study was conducted in the Department of Surgery, Basaveshwara Teaching and General Hospital, Gulbarga Karnataka during the period of Nov.2011 to Sep.2013. The diagnosis of duodenal ulcer perforation was that established by the admitting surgeon, based on clinical features and supposed by radiological evidence and confined at operation.

Surgery was defined as urgent less as 4 hours between admission and surgery, same day (4-24 hours) and delayed at a later time during the same admission. This study comprises of 60 cases of duodenal ulcer perforation admitted in the Department of Surgery, Basaveshwar Teaching &

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General Hospital. Operative details included the site and nature of operation performed. Mortality was defined as death following surgical procedure.

Post operative morbidity was defined in terms of duration of hospital stay and associated complications following surgery.

Exclusion Criteria

1. Cases of accidental duodenal perforation during laparotomy.
2. Cases of gastric antral perforation
3. Cases of traumatic duodenal perforation

Results

Table 1: Surgical and conservative treatment of perforated duodenal ulcer

Surgery	No. of Cases	Percentage (%)
SC&OP	55	91.67
TVGJ	2	3.33
B/L Flank Drain	2	3.33
Conservative	1	1.67
Total	60	100.00

Table 2: Post-operative complications

	No. of Cases	Percentage (%)
Morbidity Rate	6	10.17
Mortality Rate	7	11.67

Out of 60 patients, 91.67% of Patients underwent SC&OP, 3.33% underwent TVGJ, 3.33% underwent B/L Flank Drain and only 1.67% had conservative treatment

The morbidity rate was 10.17% and the mortality rate was 11.67%.

Discussion

In the present study the duration of symptoms(pain / vomiting / distension / constipation or diarrhoea / injury / fever) before presentation to the hospital was found be 1.49 days (1-4 days). This was mainly because most of the patients were initially treated at nursing clinics, primary care centres and then referred to our hospital. If they arrived straight to our hospital, they would have been operated earlier and the time lag would have been decreased.

Delay

The delay in taking up the patient for emergency operation was 3.67hours (2-7 hours). Patients who presented with shock needed intense resuscitation and after improving their general condition, they were shifted to emergency operation.

Postoperative Complications

In the present study, 47 patients withduodenal ulcer perforation had smooth recovery. Out of 60 cases, 13 patients had suffered from various complications such as wound infection. Seven of thirteen patients with post operative complications were expired. Patients who presented late (2 days or more) to emergency surgical ward and who had comorbid illness had increased rate of wound infection.

Hospital Stay

Patient who lapsed a longer time before operation contributedto increase in hospital stay by wound infection and increased time for improvement in general condition. Increase in age and conservative management also contributed to prolonged hospital stay. Average duration of the hospital stay was found to be 8.05 days (2-16 days).

Mortality

From the present study following prognostic factors in duodenalulcer perforation can be concluded:

1. Age
2. Associated comorbid illness
3. Time delay between onset of symptoms and admission to hospital
4. Patient general condition at the time of presentation.

Nine patients belonging to age group of more than 60 years were associated with comorbid illness (Diabetes Mellitus, Hypertension). Seven patients of this age group where presented with septicemia shock. Mortality rate in the age group of above 60 years is as high as 44.44%.

There were three patients in the age group of 40 to 49 years which were associated with comorbid illness and were presented with shock. The mortality rate in this age group was 20%.

A detailed study on outcome of non-operative management was not carried out because patients were not randomized. The observations in this group were incidentally made out.

These findings were similar to other studies [4,5,6].

Conclusion

1. Mortality rate was higher in case of geriatric patients with comorbid illness.

2. Mortality rate in the age group of above 60 years is as high as 44.44%.

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