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Original Research Article

Incidence of H. pylori and malignancy in gastric ulcer perforation

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Abstract: Ulcer disease continues to exact a heavy personal and financial toll. Currently, the personal toll of ulcer disease is seen mainly in the complications of perforation and bleeding. Gastric ulcer has a higher mortality than duodenal ulcer because of its increased prevalence in the elderly. The diagnosis was made on clinical findings supported by investigations like plain x-ray abdomen erect posture. In cases managed surgically, confirmation was made on the operation table only and intra-operative edge biopsy taken to look for malignancy and H.Pylori. The mortality is seen in patients presenting late with complications. In our study, 6.67% of mortality seen. The mortality was nil in the patients presenting early, with minimal contamination.
Keywords: Gastric Ulcer, H.Pylori, Perforation

INTRODUCTION:

Gastric ulcer is a very common disease in India and an important complication of this is perforation and recent epidemiologic studies have shown an increase in the incidence of gastric ulcer perforations. Of the peptic ulcer perforations, gastric ulcer perforation is associated with poorer outcome. Because perforated gastric ulcers have a higher rate of reperforation and complications, conservative therapy in situations in which the source of the perforation is known to be gastric is not recommended and hence surgical intervention is the treatment of choice [1].

Gastric ulcer is also more likely to occur in elderly patients, and admissions for bleeding gastric ulcers have increased during the past several years [2].

Ulcer disease continues to exact a heavy personal and financial toll. Currently, the personal toll of ulcer disease is seen mainly in the complications of perforation and bleeding [3]. Gastric ulcer has a higher mortality than duodenal ulcer because of its increased prevalence in the elderly. Recent studies have shown an increase in the rates of hospitalization and mortality in elderly patients for the peptic ulcer complications like bleeding and perforation. Presumably this is due to the increasingly common use of NSAIDs and aspirin in this elderly cohort, many of whom have H.Pylori infection [4].

The treatment of perforation still continues to be controversial. Just closure of perforation may save life, but chance of recurrence of ulcer is too high and patient may not turn up for a second curative surgery. So, there is a school of thought, which recommends definitive surgery in a perforated gastric perforation. This may to a certain extent reduce the mortality and morbidity of the patient, because patients have to risk a major operation when the general condition is not good. On the other hand it saves the patient of further surgery.

When acute or chronic gastric ulcer perforates into peritoneal cavity, three components require treatment viz., the ulcer, the perforation and the resultant peritonitis. The perforation and resultant peritonitis are immediate threats to the life; the ulcer in itself is not. The therapeutic priorities thus are treatment of peritonitis and securing the closure of perforation, which may be achieved with surgical procedure.

In spite of better understanding of disease, effective resuscitation and prompt surgery under modern anesthesia techniques, there is high morbidity (36%) and mortality (6%). Hence, attempt has been made to analyze the various factors, which are affecting the morbidity / mortality of patients with gastric perforations.

METHODOLOGY:

The diagnosis was made on clinical findings supported by investigations like plain x-ray abdomen erect posture. In cases managed surgically, confirmation was made on the operation table only and intra-operative edge biopsy taken to look for malignancy and H.Pylori.

A detailed history was taken when the condition of the patient is stable. In critically ill patients, the patients were resuscitated and history was taken after the patient was stabilized.

The hospital records were also reviewed to obtain appropriate epidemiological information regarding age, sex, occupation, and clinical presentation, duration of symptoms, past history of chronic gastric ulcer, investigations and mode of treatment.

For selecting a case for definitive surgery most times general condition of the patient taken up for surgery and also operating findings were taken into consideration. In those cases, where both these conditions were satisfactory, definitive surgery was performed, giving weightage to the choice of the surgeon. In all other cases of perforation, surgery was done to close the perforation expect where condition of the patient was very poor the details of 30 patients were arranged in the master chart for convenience of presentation.

RESULTS:

Table 1: The Age incidence of 30 patient's analysis as follows

SLNO	AGE (IN YEARS)	NO OF CASES	PERCENTAGE
1	1-10yrs	NIL	NIL
2	11-20yrs	NIL	NIL
3	21-30yrs	2	6.67%
4	31-40yrs	08	26.67%
5	41-50yrs	10	33.33%
6	51-60yrs	07	23.33%
7	>60yrs	03	10%

Table 2: Age related mobility / mortality as follows:

SL NO	AGE (IN YEARS)	NO OF CASES	GOOD RECOVERY	MORBIDITY	MORTALITY
1	21-30	02	02	NIL	NIL
2	31-40	08	07	01	NIL
3	41-50	10	06	02	02
4	51-60	07	05	02	NIL
5	>60	03	02	01	NIL

Table 3: Size of Perforation

SIZE	NUMBER OF CASES	SHOCK
<0.5cm	12	01
0.6-1cm	15	06
>1cm	03	02

Table 4: Based On Pathology

Pathology	No of cases.
Benign	29
Malignant	1

29 benign ulcer perforations towards lesser curvature prepyloric region, one malignant ulcer perforation was in the pyloric region. All the gastric ulcers were biopsied and because of delayed presentation later then 24hrs, simple closure with vicryl was done in one layer.

Patients were proton pump inhibitors. One was a malignant gastric ulcer that had perforated since the growth was not resectable the perforation was closed in two layers with vicryl and thread and palliative anterior gastro-jejunostomy was done.

Table 5: Incidence of H.Pylori

H.Pylori	NO OF CASES.	PERCENTAGE
POSITIVE	16	53.33
NEGATIVE	14	46.67

Anti-H-pylori treatment with omeprazole, amoxicillin and metranidazole for one week, followed by omeprazole 20mg od. For 3 months for H. pylori positive cases were given.

DISCUSSION:

Palmer KR *et al.;* [5] noted that 81% of the patients with perforated duodenal or gastric ulcers were infected with H-pylori. Kate V *et al.;* [6] reported the 73% prevalence of H-pylori in perforated peptic ulcer. In the present study, we were not able to analyze the H-pylori infection, because of non-availability of facility in our hospital and poor socioeconomic status of our patients.

Surgical management:

- Lawal OO *et al.;* [7] advised the treatment of perforations in the majority of patients was by simple closure or truncalvagotomy and pyloroplasty.
- Murquez RT *et al.;* [8] revealed that simple closure remains the selected treatment in the majority of patients who present with a perforated peptic ulcer (2000).
- Fombellids Deus *et al.;* [9] review of literature has revealed that the absence of risk factors must lead to accomplish a definitive treatment through the resection or the suture of the perforation followed by any type of vagotomyan eventually a drainage operation.
- Tsugawa K [10] reported that a simple closure and vagotomy is recommended for perforated duodenal ulcers because of its low mortality and minimal stress, except for cases with a giant perforation measuring over 20mm in diameter at the perforation hole (2001).
- Bharati C Ramesh *et al.;* [11] quotes that in perforated duodenal ulcer patients, the definitive procedure (Truncalvagotomy with pyloroplasty) can be done as safely as simple closure.
- In the present study, we have done simple closure with omental patch in 30 patients. We found 6.67% mortality in patients with simple closure with omental patch treatment.

Mortality:

The mortality is seen in patients presenting late with complications. In our study, 6.67% of mortality seen. The mortality was nil in the patients presenting early, with minimal contamination.

Table 23: Mortality

Authors	Mortality with simple closure and omental patch	Mortality with definitive surgery
De Bakey Series [12]	26.00%	13.40%
Sawyers *et al.;* series [13]	6.70%	2.80%
Bharati C Ramesh *et al.;*[11]	7.00%	4.00%
Present study	6.67%	-

CONCLUSION:

Helicobacter pylori eradication treatment is mandatory after simple closure of the perforation to prevent recurrence of ulcer.

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