

An Observational Assessment of Surgical Management of Complications of Peptic Ulcer Diseases among High-Risk Patients and with Irregular Treatment

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Abstract

Aim: The aim of the present study was to assess the complications of peptic ulcer Diseases and surgical management of complications of peptic ulcer diseases among high-risk patients and with Irregular treatment.

Methods: The present study was conducted at department of General Surgery, Jagannath Gupta Institute of Medical Sciences & Hospital, Budge Budge, Kolkata, West Bengal, India and patients admitted with a primary diagnosis of peptic ulcer disease complications such as haemorrhage, hollow viscus perforation, and gastric outlet obstruction, and who underwent surgical management for the above, were included in this prospective study. After applying inclusion and exclusion criteria, a minimum of 200 patients were chosen for this research.

Results: In our study majority of the subjects were between the age group of 31 to 60 years. 90% of the patients were male with 70% hailed from rural community. 60% had high school education or above. Out of the 200 patients in our study 72% had perforation, 5% had Bleeding, 23% had Gastric outlet Obstruction complication related to Peptic ulcer Diseases. Among Patients with Perforation, 70 out of 144 cases had previous history of peptic ulcer disease in which 64 (44.44%) patients on irregular treatment and 8 (5.55%) patients on regular treatment. 10 out of 10 patients with Bleeding complication gave history of off and on pain in abdomen and taken regular treatment for peptic ulcer disease. 46 out of 46 cases of gastric outlet obstruction had previous history of peptic ulcer disease, all of them on irregular treatment.

Conclusion: Complications are more common in people who get irregular medical therapy for peptic ulcer disease and are less common in patients who receive regular medical care. Medical therapy has a critical and important role in treating the majority of patients with peptic ulcer disease in the current age of effective PPI and anti-H.Pylori medication. Surgical care is required for individuals with refractory and complex peptic ulcer disease, despite dramatic breakthroughs in the conservative management of the condition.

Keywords: perforated peptic ulcer; bleeding peptic ulcer; gastric outlet obstruction; NSAIDs; smoking; H.pylori; proton pump inhibitors

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Introduction

Peptic ulcer is a disease of gastric and duodenal ulcer. They are having three main complications such as hemorrhage, perforation or obstruction. [1] These complications may develop without any symptoms. The etiopathogenesis of peptic ulcer disease has changed from acid related disease to infectious disease. Some studies discovered that Helicobacter pylori plays an important role in causing peptic ulcer. The main important task is to treat peptic ulcer but there are some drugs that induces peptic ulcer such as NSAIDs, low dose

aspirin, smoking, excessive alcohol usage, emotional stress and such drugs cause peptic ulcer and their complications. There are different factors that produce diseases depending upon the histological changes, gastritis induced changes in homeostasis of gastric hormones and acid secretion, gastric metaplasia in duodenum, immunopathogenesis, ulcerogenic strains and genetic factors. [2] Currently, up to 90% of all ulcer operations are interventions for complications, including hemorrhage, perforation and gastric outlet

obstruction. [3] There is average of 2 – 10% patients suffers with peptic ulcer complications [4-5] with mortality rate of 10%. For the treatment of peptic ulcer disease, proton pump inhibitors H2 receptors antagonists, chemotherapy drugs for H. Pylori disease are used. [2]

The history of management of peptic ulcer disease is one of the great stories in the history of general surgery. [6] Medical therapy cures peptic ulcer in the vast majority of cases, therefore in many areas of the world elective surgery for peptic ulcer disease has almost but disappeared. [7] Currently, up to 90% of all ulcer operations are interventions for complications, including hemorrhage, perforation and gastric outlet obstruction. [1] However, the absolute number of elective procedures performed has significantly diminished in recent years. [8] Some believe that the need for emergency surgery has not reduced, probably because of the increasing incidence of NSAID'S associated complications. [7]

In comparison with a computed tomography scan which reveals superior diagnostic accuracy of 98%, a CT scan can help to distinguish other mimicking differential diagnoses of the acute abdomen like acute pancreatitis that would not require surgical intervention; the utility of this CT scan is justified when the clinical presentation is not specific to upper gastrointestinal pathology or malignancy is suspected and patients' hemodynamic is not deranged. [9] Exploratory laparotomy and omental patch repair remain the gold standard for peptic perforation. Laparoscopic surgery should be preserved in the early presentation of disease and diminished associated complications. Definitive antiulcer surgery is significantly associated with fatal outcomes in these patients, while it increases the length of the operation, exposes the patient to prolonged anesthetic time, and increases the chance of postoperative complications. Gastrectomy is recommended in patients with a large or malignant ulcer. [10,11]

The aim of the present study was to assess the complications of peptic ulcer diseases and surgical management of complications of peptic ulcer diseases among high-risk Patients and with Irregular treatment.

Materials and Methods

The present study was conducted at department of General Surgery, Jagannath Gupta Institute of Medical Sciences & Hospital, Budge Budge, Kolkata, West Bengal, India for one year and patients admitted with a primary diagnosis of peptic ulcer disease complications such as haemorrhage, hollow viscus perforation, and gastric outlet obstruction, and who underwent surgical

management for the above, were included in this prospective study. Complications were diagnosed based on a complete history and a thorough clinical examination. These individuals had the necessary preoperative tests and were sent to the hospital for emergency or elective surgery. After applying inclusion and exclusion criteria, a minimum of 200 patients were chosen for this research. To gather pertinent information from all of the identified patients, a pre-tested proforma was employed.

Inclusion Criteria:

All patients who had previously received conservative therapy for peptic ulcer disease complications and had a history and diagnostic characteristics indicative of peptic ulcer disease complications. Patients who are on irregular medication and have issues;

- Patients who are not taking proton pump inhibitors as prescribed;

- Patients who are using proton pump inhibitors but have not seen any improvement in their condition.

After conferring with the unit leader, a decision was made about whether to pursue conservative or surgical therapy. Age of the patient, general health, time elapsed between beginning of symptoms and admission to hospital, and related medical problems were all considered in patients with perforation. When treating patients with bleeding, the age of the patient, general health, number of episodes of haematemesis/malena, presence of shock, prior history of haematemesis, and number of blood transfusions needed were all taken into account. Preoperative correction of fluid and electrolyte imbalance was performed, blood was supplied, and antibiotics were begun in situations where surgical treatment was scheduled. The majority of perforation patients required an emergency laparotomy. After endoscopic treatment failed, patients with bleeding were sent for an emergency laparotomy and elective surgical procedure for a gastric outlet blockage. Patients were given continuous nasogastric suction, intravenous fluids, and broad-spectrum antibiotics after surgery. Vital signs were kept track of. Intake/output, as well as biochemical markers were evaluated. Any issues that occurred during the postoperative period were recognised and addressed properly. Patients were released from the hospital after a successful recovery, with advise on nutrition, anti-ulcer medicines, H.pylori eradication treatment, and stopping smoking/alcohol, among other things. All of the patients were told to return on a regular basis for follow-up.

Results

Table 1: Socio Demographic Profile of the Patients

Age group in years	N	%
<20 years	14	7
21-30 years	22	11
31-40 years	50	25
41-50 years	54	27
51-60 years	30	15
61-70 years	22	11
71-80 years	2	1
>80 years	6	3
Gender		
Male	180	90
Female	20	10
Education		
Illiterate	64	32
Primary School	16	8
High School	50	25
Pre-University course	36	18
Graduate	34	17
Locality		
Rural	140	70
Urban	60	30

In our study majority of the subjects were between the age group of 31 to 60 years. 90% of the patients were male with 70% hailed from rural community.60% had high school education or above.

Table 2: Complication of the Peptic ulcer

Complications	N	%
Perforation	144	72
Bleeding Peptic Ulcer	10	5
Gastric Outlet Obstruction	46	23
Total	200	100

Out of the 200 patients in our study 72% had perforation, 5% had Bleeding, 23% had Gastric outlet Obstruction complication related to Peptic ulcer Diseases.

Table 3: Past History of Peptic Ulcer Disease and Treatment

	Perforation N=144		Bleeding Peptic Ulcer N=10		Gastric Outlet Obstruction N=46		
	No of cases	%	No of cases	%	No of cases	%	
Past History of PUD	Present	70	48.62	10	100	46	100
	Absent	74	51.38	0	0	0	0
Treatment for PUD	Regular	8	5.55	10	100	0	0
	Irregular	64	44.44	0	0	46	100
	Not taken	72	50	0	0	0	0

Among Patients with Perforation, 70 out of 144 cases had previous history of peptic ulcer disease in which 64 (44.44%) patients on irregular treatment and 8 (5.55%) patients on regular treatment. 10 out of 10 patients with Bleeding complication gave history of off and on pain in abdomen and taken regular treatment for peptic ulcer disease. 46 out of 46 cases of gastric outlet obstruction had previous history of peptic ulcer disease, all of them on irregular treatment.

Discussion

H. pylori was reported to be eradicated with selective H2 receptor blockers, proton pump inhibitors, and antibiotic treatment. Changes in therapy have resulted from a better knowledge of the pathophysiology of peptic ulcer disease. In situations of pharmacological failure or inability to get or adhere to medical treatment, surgical care of peptic ulcer disease is still beneficial. Surgical treatment is currently used mostly for complications

of peptic ulcer disease in most regions of the globe. Usually, they are emergency situations. Currently, up to 90% of all ulcer procedures are for complications such as bleeding, perforation, and blockage of the stomach outlet. [1] Peptic ulcer disease complications that need operational intervention have remained common. However, in recent years, the total number of surgeries conducted has decreased dramatically. Some experts argue that the necessity for emergency surgery has not decreased, owing to the rising prevalence of NSAID-related problems. [8]

In our study majority of the subjects were between the age group of 31 to 60 years. Banerjee et al [12] did the studies in 1994, where 60% of patients belonged to the age group 30-50 years. This finding is consistent with the findings of Banerjee et al [12] and Bharti et al [14], Seth et al. [13] 90% of the patients were male with 70% hailed from rural community. 60% had high school education or above. Out of the 200 patients in our study 72% had perforation, 5% had Bleeding, 23% had Gastric outlet Obstruction complication related to Peptic ulcer Diseases. Wilcox et al [15] did a study, stated that "more than 50% of patients with upper GI bleeding gave a history of concurrent use of NSAID's, most of which are over the counter medications.

Among Patients with Perforation, 70 out of 144 cases had previous history of peptic ulcer disease in which 64 (44.44%) patients on irregular treatment and 8 (5.55%) patients on regular treatment. 10 out of 10 patients with Bleeding complication gave history of off and on pain in abdomen and taken regular treatment for peptic ulcer disease. 46 out of 46 cases of gastric outlet obstruction had previous history of peptic ulcer disease, all of them on irregular treatment. Mathur PN et al [3] observed in their study that age group between 31 – 50 years are more prone for peptic ulcer complications. As per the occupation, majority of the patients were employed 112 (62.22%) followed by studying 48 (26.66%) and unemployed 20 (11.11%). Kotha A et al (2020)² Total of 54 patients having ulcers in stomach as such 32 (59.25%) having Multiple ulceration followed by gastric obstruction 18 (33.33%) and bleeding 04 (07.40%).

Perforations in the majority of patients should be treated with simple closure or truncal vagotomy with pyloroplasty, according to Lawal OO et al [16] (1998). Truncal vagotomy with posterior gastrojejunostomy was performed on 26 individuals (100%) who had a gastric outlet blockage. "Surgical techniques that are considered in gastric outlet blockage due to refractory PUD include vagotomy and pyloroplasty, antrectomy, and gastroenterostomy," according to Yang PJ, Yang CY, Lin TH, et al. [17]

Conclusion

Complications are more common in people who get irregular medical therapy for peptic ulcer disease and are less common in patients who receive regular medical care. Medical therapy has a critical and important role in treating the majority of patients with peptic ulcer disease in the current age of effective PPI and anti-H.Pylori medication. Surgical care is required for individuals with refractory and complex peptic ulcer disease, despite dramatic breakthroughs in the conservative management of the condition.

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