

A clinical study of complications and surgical management of peptic ulcer diseases patients in a tertiary care centre in Shivamoga, Karnataka

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Abstract

Background: In South India, peptic ulcer disease is one of the most frequent ailments. Despite the fact that much research has been done on the aetiology of this illness, one single etiological factor cannot be blamed for its occurrence, particularly in our region of the country. One of the three primary consequences of a peptic ulcer is bleeding, perforation, or blockage. Our research will be limited to determining the amount of peptic ulcer problems, with a focus on conservative treatment failure, irregular treatment consequences, etiological variables, and different surgical treatment techniques. **Materials And Methods:** From January 2019 to December 2020 patients admitted to Subbaha Medical College Shivamogga with a primary diagnostic of complications of peptic ulcer disease with complication and who had surgical care for the aforementioned were studied. After applying inclusion and exclusion criteria, a minimum of 100 patients were chosen for this research and randomly assigned to each of the clinical studies. To gather pertinent information from all of the identified patients, a pre-tested proforma was employed. **Results:** Of the 100 patients in our research, 70% had perforation, 4% had bleeding, and 26% had Gastric outlet Obstruction, all of which were complications of peptic ulcer disease. In our research, the most frequent consequence caused by Peptic Ulcer was perforation. Thirty-four out of seventy patients with perforation had a history of peptic ulcer disease, with 30 (42.86 percent) on irregular therapy and four (5.71%) on regular treatment. The majority of them are smokers, drinkers, NSAID users, and those with high stress levels. The conservative medical course of treatment failed in 4 (5.71%) of the 70 patients in this study. **Conclusion:** 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; nsaid; smoking; h.pylori; proton pump inhibitors.

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INTRODUCTION

An ulcer in the lower oesophagus, stomach, duodenum, jejunum following surgical anastomosis to the stomach, or in the ileum close to Meckel's diverticulum is referred to as a "peptic ulcer." Peptic ulcers are so termed because, in addition to acid, pepsin is almost certainly necessary for their occurrence. Peptic ulcer disease is one of the most frequent ailments that people in South India suffer from. Despite the fact that much research has been done on the aetiology of this illness, one single etiological factor cannot be blamed for its occurrence, particularly in our

region of the country. Hemorrhage, perforation, or blockage are the three primary consequences of a peptic ulcer. These might happen without any warning signs or symptoms. Failure to get proper and prompt medical care, low socioeconomic situations (prevalence of H- Pylori), usage of NSAIDs, alcohol misuse, and smoking all contribute to these consequences.¹ One of the great tales in the history of general surgery is the therapy of peptic ulcer disease.¹ Because medical treatment heals peptic ulcer disease in the great majority of instances, elective surgery for peptic ulcer disease has almost vanished in many parts of the globe.² 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.³ 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.^{4,2} Our research will be limited to determining the magnitude of peptic ulcer complications (namely perforation, bleeding, and gastric outlet obstruction) with a focus on the failure rate of conservative treatment, complications resulting from irregular treatment, etiological factors, and various surgical treatment modalities.

Objectives: To study 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

Patients admitted to Subbaiah Medical College, Shivamoga, 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 from January 2019 to December 2020 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 100 patients were chosen for this research and randomly assigned to each of the clinical studies. 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 necessary 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 surgery 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

In our study total of 100 cases were analysed.

Table 1: Socio Demographic Profile of the Patients

Socio Demographic Variables	Number (n= 100)
Age	
< 20 years	8
21 to 30 years	10

	31 to 40 years	26
	41 to 50 years	26
	51 to 60 years	14
	61 to 70 years	12
	71 to 80 years	0
	>80 years	4
Gender	Male	88
	Female	12
Religion	Hindu	64
	Muslim	30
	Christian	6
Locality	Rural	68
	Urban	32
Socio Economic Status	Good	20
	Poor	80
Education	Illiterate	30
	Primary School	10
	High School	24
	PUC	18
	Graduate	18

In our study majority of the subjects were between the age group of 31 to 60 years. 88% of the patients were male with 64% of them belonging to Hindu religion. 64% hailed from rural community and nearly 40% had poor socioeconomic status.

Table 2: Complication of the Peptic ulcer

Complication	No of cases	Percentage
Perforation	70	70
Bleeding Peptic Ulcer	4	4
Gastric Outlet Obstruction	26	26
Total	100	100

Out of the 100 patients in our study 70% had perforation, 4% had Bleeding, 26% had Gastric outlet Obstruction complication related to Peptic ulcer Diseases. Perforation was the most common complication due to Peptic Ulcer in our study. Out of 70 cases of perforation 88.5% cases were male and 11.4% were female reflecting the higher prevalence of Peptic Ulcer Disease Related complication more in Male Population. Both the cases of Bleeding were reported in male patients. 84.6% of male patients had gastric outlet obstruction compared to 15.3% of females. All the complication was reported higher among male than female. Among Cases with Perforation, Pain in the epigastrium and Right Hypochondrium was the most common Presentation followed by Absent bowel sounds, Vomiting, fever, abdomen Distension and tenderness. Both cases of bleeding of peptic ulcer presented with pain abdomen, vomiting, Haematemesis, Malena and tenderness. Gastric Outlet Obstruction was presented with Vomiting, pain abdomen and malena. Visible Peristalsis was seen in all the cases and Succ Splash was seen in 76% of the cases.

Table 3: Past History of Peptic Ulcer Disease and Treatment.

		Perforation (n=70)		Bleeding (n=4)		Gastric Outlet Obstruction (n=26)	
		No of cases	%	No of cases	%	No of cases	%
Past History of PUD	Present	34	48.5	04	100	26	100
	Absent	36	51.4	0	0	0	0
Treatment for PUD	Regular	4	5.7	4	100	0	0
	Irregular	30	42.8	0	0	26	100
	Not taken	36	51.4	0	0	0	0

Among Patients with Perforation, 34 out of 70 cases had previous history of peptic ulcer disease in which 30(42.86%) patients on irregular treatment and 4(5.71%) patients on regular treatment. Most of them are smokers, alcoholics, NSAID's users and stress personality. In this series failure of conservative medical line of management in 4(5.71%) cases out of 70 cases. 4 out of 4 patients with Bleeding complication gave history of off and on pain in abdomen and taken regular treatment for peptic ulcer disease. 26 out of 26 cases had previous history of peptic ulcer disease, all of them on irregular treatment.

Most of them are smokers, alcoholics, NSAID's users and stress personality. Majority of the patients responded well post operation for perforation. About 28.5% had respiratory tract infection, 17.1% had wound infection, 5.7% of patient had frank wound Dehiscence. In the present study, 4 (5.71%) out of 70 patients with Perforation expired after simple closure of perforation.

DISCUSSION

In our area of the globe, duodenal ulcer perforation is a frequent surgical emergency. Peptic ulcer disease (PUD) has a constantly changing epidemiology. The number of patients receiving operations for complications looked to be pretty consistent a little more than a decade ago. From the standpoint of a surgeon, data on H Pylori infection and the typical indications for surgery - perforation, bleeding, and gastric outlet blockage - have been mostly inferential until recently, based on the treatment of people with simple peptic ulcers. In our research, the incidence of peptic ulcer disease and complications was higher in the middle-aged group. S.N. Mathur ⁵, A.K. Dev ⁶, Banerjee ST,⁷ and Ramesh C. Bharti *et al.*⁸ all found a high prevalence in the Middle Age group. The likely cause of the increased occurrence in the middle age group is the higher prevalence of drinking and smoking behaviours, as well as stress factors. Male preponderance (88%) of Peptic Ulcer Disease was identified in our research, which is comparable to the results of Sapears *et al.* ⁹ (72%), Dandapat *et al.*¹⁰ (90.6%), and Ramesh C Bharti *et al.* ⁸ (72%) studies (96 percent). In this research, 34 of the 70 instances of perforation had a history of peptic ulcer disease, with 30 (42.86 percent) patients receiving irregular therapy and 2 (5.71%) patients receiving regular treatment. The majority of them are smokers, drinkers, NSAID users, and those with high stress levels. Cotton PB ¹¹ *et al.* in 1973, Minhas S. S¹² *et al.* in 1987, and Mourougayan V¹³ *et al.* in 1994 found that the incidence was 80 percent, 49 percent, and 68.7 percent, respectively, in earlier research. Out of four individuals who had a Bleeding Complication, four had a history of abdominal discomfort that came and went and had been treated for peptic ulcer disease on a regular basis. The results are in line with those of a 1994 research by Banerjee ST ⁷ *et al.* In our investigation, 60% of Perforated patients reported using NSAIDs recently for related medical and orthopaedic issues, which is nearly identical to the results of Blower AL *et al.*,¹⁴ Wilcox C M *et al.*,¹⁵ and Lans *et al.*¹⁶ When compared to the results of Blower *et al.*¹⁴ and Wilcox C M *et al.*¹⁵, 50% of the bleeding Peptic ulcer cases had a history of NSAID use. In our research, 60 percent of patients smoked and used alcohol, with 26 percent being only smokers and 34.3 percent being both smokers and alcoholics. Smoking was linked to 86 percent of patients in a research conducted by Smedley F H¹⁷ in 1988. This demonstrates that smoke has an ulcerogenic impact on the gut mucosa. The majority of patients with perforation had

a straightforward closure with an omental patch made of Vicryl 2-0 (absorbable) material. In 35 cases, simple perforation closure was done. "Simple closure is the procedure of choice in perforated duodenal ulcer patients," said Mathur S N⁵ *et al.* in 1991. "Simple closure is the safe emergency technique in all perforated duodenal ulcer patients," wrote Mourgugyan V¹³ in 1994 and Ramesh C. Bharati⁸ in 1996. 4 of the 70 patients (5.71%) who had perforated duodenal ulcers had final surgery, which included simple closure with an omental patch, Truncal vagotomy, and pyloroplasty. Perforations in the majority of patients should be treated with simple closure or truncal vagotomy with pyloroplasty, according to Lawal OO *et al.*¹⁸ (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.* ¹⁹

CONCLUSION AND RECOMMENDATION

Peptic ulcer illness and its consequences are more frequent in those aged 30 to 50, who are male, and who come from lower socioeconomic backgrounds. The majority of patients have nonspecific stomach discomfort in the epigastric area, as well as vomiting. Nonsteroidal anti-inflammatory medicines, having a Type A personality, smoking, and consuming alcohol are all significant risk factors. 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.

REFERENCES

1. Ronald F, Martin MD. Surgical management of ulcer disease. *Surgical clinics of North America*. 2005; 85: 907-929.
2. Towfigh S, Chandler C, Hines OJ, Mcfadden DW. Outcomes from peptic ulcer surgery have not benefited from advances in medical therapy. *Am surg* 2002; 68: 385-389.

3. Jamieson GG. Current status of indications for surgery in peptic ulcer disease. *World J Surg* 2000; 24: 256-258.
4. Schwesinger WH, Page CP, Sirinek KR. Operations for peptic ulcer disease: Paradigm lost. *J Gastrointest Surg.*2001;5: 438-443.
5. Mathur SN, Khandelwal R. Peptic perforation - A clinical study of prognostic factors. *Ind J Surg*, 1991; 53(6): 251-253.
6. A.K.Dev, S.Paul, N.Bhattacharjee, et al. Perforated duodenal ulcers. *Ind J Surg*, 1994; 56(5): p.222-227.
7. Banerjee ST. Clinical and endoscopic evaluation of gastroduodenal haemorrhage. *Ind J Surg*, 1994; 92(7): 221-222.
8. Ramesh C, Bharti DC, Marwaha, Minhas SS. A comparative study between definitive surgery and simple closure in perforated duodenal ulcer. *Ind J Surg*, 1996; 58(10):275-279.
9. Saperas E, Piquie JM, Ayuso Perez. Conservative management of bleeding duodenal ulcers without a visible vessel: Prospective randomized trial. *Br J Surg*, 1987; 74: 784-786.
10. Dandapat MC, et al. Gastrointestinal perforation. (A review of 340 cases), *Ind J Surg*, 53(5): 189-93.
11. Cotton P.B. et al. Early endoscopy of oesophagus, stomach and duodenal bulb in patients with haemetemesis and malena. *Br Med J*, 1973 Jun 2;2(5865).505-9.
12. Minhas S.S. Management of perforated duodenal ulcer - (A review of 76 cases). *Ind J Surg*, 1987; 49(3and4): 130-132.
13. Mourougayan V, Smile SR, Sibal RN. Morbidity and mortality of definitive surgical procedure in duodenal ulcer perforation. *Ind J Surg*, 1994; 56(3): 102-108.
14. Blower A.L. Armstrong C.P. (Letter) *Lancet* 1, 1986.
15. Wilcox CM et al. Striking prevalence of the over the counter NSAID's use in patients with upper GI bleeding. *Arch Int Med*, 1994; 154(1): 42-46.
16. Lans et al. NSAIDs and Peptic ulcer. *Service of Gastroenterology, Unidad Mixta de Investigacion Hospita Clinco, Spain, Gsatrpemterp*, 1997 Mar; 112(3): 683-9.
17. Smedly FH, Hickish T. NSAIDs and peptic ulcer perforation. *Gut*, 1986; 27: 114.
18. Lawal OO et al.: Clinical pattern of perforated prepyloric and duodenal ulcer at Ile-Ife, Nigeria. *Trop. Doct.*1998; 28: 152-155.
19. Yang PJ, Yang CY, Lin TH, et al. A novel surgical technique: gasless laparoscopy- assisted gastrojejunostomy. *Hepatogastroenterology* 2008;55(86-87):1948-50.

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