

TREND IN GASTRIC OUTLET OBSTRUCTION AT PATIENTS ATTENDING TRIBHUVAN UNIVERSITY TEACHING HOSPITAL, KATHMANDU, NEPAL

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ABSTRACT

Introduction

Gastric outlet obstruction (GOO) involves obstruction in the antro-pyloric region or bulb of duodenum. Malignancy is common cause of GOO in adults but many patients with GOO have benign causes. Despite the improvement in medical management, about 5% patients with complicated duodenal ulcer disease and 1%-2% with complicated gastric ulcer disease respectively develop this problem.

Objective

The purpose of this study was to find the etiologies of GOO, their management options and outcome in Tribhuvan University Teaching Hospital.

Methodology

In this retrospective study, the records of 44 patients admitted with diagnosis of GOO from September 2007 to August 2010 in the Department of Surgery, Tribhuvan University Teaching Hospital, Kathmandu, Nepal were retrieved. Patients' demography, etiologies of GOO, treatment given and their outcome were analysed.

Results

Thirty two patients (73%) were male and 12 (27%) were female with M:F ratio of 2.7:1. The mean age of patients was 57.40 years and duration of symptoms 2.68 months. Carcinoma of stomach, 28 cases (64%) was most common etiology of GOO followed by PUD, 9 (21%), duodenal malignancy, 3 (7%), corrosive stricture, 2 (5%), advanced gallbladder carcinoma, 1 (2%) and chronic pancreatitis, 1 (2%). Seventeen (39%) patients were treated by gastrojejunostomy, 14 (32%) by subtotal gastrectomy and gastrojejunostomy, 5 (11%) by truncal vagotomy and gastrojejunostomy, 4 (9%) by medical management, 2 (4.5%) by feeding jejunostomy, and 2 (4.5%) were discharged on request. Complications occurred in 7 (16%) patients and mortality in 1 (2%). Twenty three (52%) patients were candidates for chemotherapy either in an adjuvant or palliative setting.

Conclusion

Gastric malignancy was the most common cause of gastric outlet obstruction. Most of the patients in our setup presented with advanced disease and were candidates of palliative treatment only.

KEY WORDS

Gastric outlet obstruction, malignant gastric outlet obstruction, peptic ulcer disease, palliative treatment.

INTRODUCTION

Gastric outlet obstruction (GOO) involves obstruction in the antro-pyloric region or bulbar or post bulbar segment of duodenum. Malignancy is common cause of GOO in adults,^{1,2} but many patients with GOO have benign causes which includes peptic ulcer disease (PUD), caustic ingestion, post-operative anastomotic stricture and inflammatory conditions such as Crohn's disease and tuberculosis. Infrequently, chronic pancreatitis, annular pancreas and non-steroidal anti-inflammatory drug-induced strictures result in GOO. Peptic ulcer disease is the commonest condition leading to benign GOO. With the recognition of association between *Helicobacter pylori* (*H. pylori*) infection and peptic ulcer disease and improved medical management has reduced the prevalence of benign GOO less than 5% for complicated duodenal ulcer disease and less than 1%-2% for complicated gastric ulcer disease.^{3,4} Patients with GOO attributable to ulcer often have a long history of symptoms of ulcer disease.⁵ For obstructing duodenal ulcer disease, duodenal bulb has been identified as the most common site of obstruction accounting more than 95% of cases followed by obstruction in the postbulbar region.⁴ Caustic ingestion causing antral/pyloric scarring and resulting in GOO, is another important cause of benign GOO.^{6,7} Despite the improvement in medical management of PUD, about 5% patients with complicated duodenal ulcer disease and 1%-2% with complicated gastric ulcer disease still develop GOO.⁴ The purpose of this study was to find the etiologies of GOO, their management options and outcome in Tribhuvan University Teaching Hospital

METHODOLOGY

In this retrospective study, we searched for records of the patients admitted with the diagnosis of GOO in our institution over past three years (September 2007 to August 2010) with the permission from the Head of Department of Surgery. All patients admitted with the diagnosis of GOO over the period were included. We excluded pediatric patients (aged < 18 years) admitted with GOO. Data was collected on Patients' demography, various etiologies of GOO, treatment given and their outcomes. Advanced gastric cancer was defined as the cancer which cannot be cured. It includes locally advanced or metastatic disease.⁸ Statistical analysis was done using Statistical Package for Social Sciences (SPSS) 16.0 version and statistical averages were calculated.

RESULTS

Forty-four patients were included in the study. Male patients outnumbered the female (M: F = 2.7:1). Most of the patients were in 61-80 years age group followed by 41-60 years age group (Figure 1).

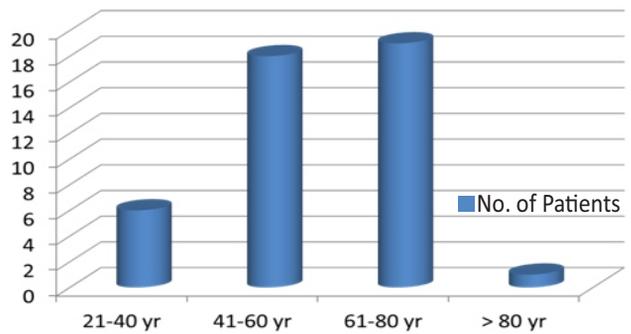


Figure 1: Patient distribution according to age group

Pain abdomen and vomiting was most common presentations followed by abdominal distension and melena. Gastric cancer was the most common etiology (Figure 2).

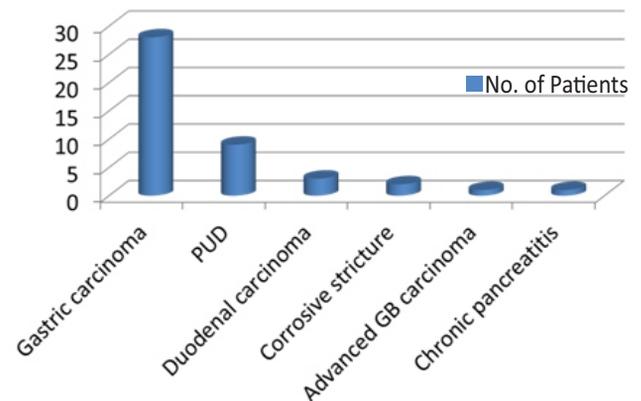


Figure 2: Etiologies of Gastric outlet obstruction

Out of 28 patients with gastric cancer, 15 were resectable and 13 were advanced. Patients with resectable cancer underwent subtotal gastrectomy with gastro-jejunostomy (13) or near-total gastrectomy and gastro-jejunostomy (2). Patients with advanced gastric cancer underwent palliative subtotal gastrectomy with gastro-jejunostomy (3) or gastro-jejunostomy (7) or feeding jejunostomy (2). One patient in each group were discharged on request of patient party (Figure 3).

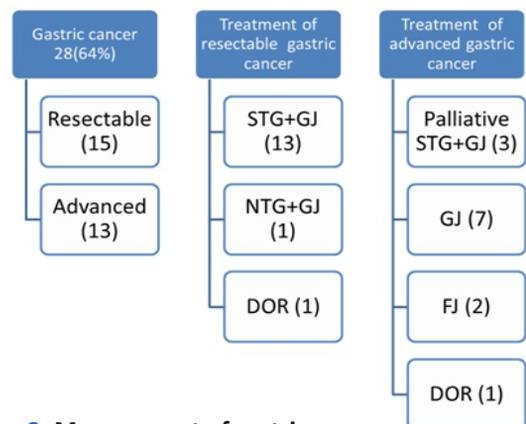


Figure 3: Management of gastric cancer

[STG-Subtotal gastrectomy, GJ-Gastrojejunostomy, NTG-Near-total gastrectomy, DOR-Discharged on request, FJ-Feeding jejunostomy]

Out of 9 patients with PUD, 4 improved with medical management and 5 required surgery which was truncal vagotomy with gastro-jejunostomy. There were 3 cases of

advanced duodenal carcinoma who were managed by palliative gastro-jejunostomy. Similarly 2 cases of corrosive stricture and 1 each advanced gallbladder cancer and chronic pancreatitis underwent gastro-jejunostomy.

Complications occurred in 9 patients following surgery. Postoperative pneumonia in 4 patients, bleeding in 2 patients (1 required re-exploration), dumping syndrome in 1 patient, and jaundice in 1 patient who was managed by percutaneous transhepatic biliary drainage. One patient expired following truncal vagotomy and gastrojejunostomy.

DISCUSSION

Gastric outlet obstruction (GOO) involves obstruction in the antro-pyloric region or duodenal bulb. Malignancy is common cause of GOO in adults,^{1,2} but many patients with GOO have benign causes. This study focused on various etiologies of GOO, their prevalence, the management options and outcome of the management. In this study, 32 (73%) were male and 12 (27%) were female showing GOO is more common in male. This gender difference can be due to difference in the lifestyle of our population. Malignancy accounted for 32 (73%) of GOO of which carcinoma of stomach accounted 28 (64%). In the study of Iruru et al, which involved 37 patients, gastric cancer accounted 41% of GOO and 51% patients were male and 49% female.⁹ Mean age of patients was 57.4 years showing GOO is late feature. Similarly, Essoun et al reported 55.14% incidence of gastric cancer and 27.10% for PUD as etiologies of GOO involving 107 patients. In their study also male patients outnumbered the female (2.15:1).¹⁰ In another study with 50 cases of GOO, Godadevi et al reported gastric cancer accounted for 52% of cases and PUD 46%.¹¹ In this study, PUD accounted for 9 cases (21%) and 5 (11%) patients underwent surgery indicating that the role of surgery in benign GOO still persists. Glyn G found that complication of PUD requiring surgery is still there. In his study, gastrointestinal bleeding (10-20%), perforation (2-10%) and GOO (5-8%) were indications for surgery.¹²

Schwesinger et al, on their 20 year study period (1980-2000) found that there was gradual decline in the indications of upper gastrointestinal surgery on consecutive years. In their study, the indications for surgery for benign GOO declined but not for the malignant.¹³

Zittel et al concluded that emergency surgery for PUD will continue and endoscopic treatment fails in about 30% of benign GOO requiring surgery.¹⁴ In this study, out of 9 patients of PUD only 4 (44%) responded to medical M/M and 5 patients (56%) required surgery. For patients of malignant GOO treated by GJ or endoscopic stenting, Jasen et al reported no significant differences in 30-day mortality, complication rates or survival.¹⁵ In this study, no 30-day mortality and significant complications were noted in patients of malignant GOO treated with GJ concluding GJ is suitable option for patients with advanced GOO requiring palliation.

CONCLUSION

Gastric malignancy was the most common cause of gastric outlet obstruction. Most of the patients in our setup presented with advanced disease and were candidates of palliative treatment only.

RECOMMENDATION

We recommend further multi-centric studies with larger number of patients and longer duration of follow up.

LIMITATION OF THE STUDY

The retrospective study design and shorter duration were the major limitation of this study.

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CONFLICT OF INTEREST

We declare no conflict of interest.

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