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GASTRIC OUTLET OBSTRUCTION IN ADULTS: AN OBSERVATIONAL STUDY IN MGM MEDICAL COLLEGE, JAMSHEDPUR

General Surgery

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ABSTRACT

INTRODUCTION: Gastric outlet obstruction is commonly caused by malignancy and peptic ulcer related cicatrisation. This study is aimed at finding common trends of pathology of GOO and management protocol used for its treatment.

MATERIAL AND METHODS: 50 cases of GOO which were operated in MGM,Medical college,Jamshedpur were included in this study. Their management and follow-up was observed and analysed.

RESULTS: GOO is more common in elderly males. 94% patients present with projectile vomiting while 90% complain of abdominal pain. Gastric antral malignancy was the cause of GOO in 90% of the cases. Common surgeries performed were partial gastrectomy, subtotal gastrectomy, anterior gastrojejunostomy and truncal vagotomy with gastrojejunostomy.

CONCLUSION: Gastric malignancy is the most common cause of GOO. Surgical resection in early stages gives good result.

KEYWORDS

Gastric Outlet Obstruction (goo), Gastrectomy, Gastric Malignancy, Duodenal Ulcer Cicatrisation

INTRODUCTION:

In relation to diseases in adults, gastric outlet obstruction is a widely accepted label applied to a characteristic syndrome resulting from obstruction to the emptying of the stomach due to an organic lesion in the region of the outlet of the stomach. In the past years, to describe this syndrome, the term pyloric stenosis was in usage and even now this terminology is in use invariably in the medical science.[3] The commonest cause of gastric outlet obstruction is carcinoma of the gastric antrum, second to this comes duodenal ulcer cicatrisation. Other causes are numerous but uncommon or rare, they include adult hypertrophy of the pylorus, tuberculous pyloric region, corrosive stricture of pylorus, pyloric channel syndrome,benign tumours of pylorus and stomach i.e. leiomyoma, gall stones through cholecysto-gastric fistula, pericholecystic abscess, perigastric abscess, perigastric adhesion to the liver bed following cholecystectomy , Hodgkin's disease, heterotopic pancreatic tissue at pylorus, pancreatic carcinoma, foreign bodies and Crohn's disease.[1,3] In present study the characteristics of GOO in patients of MGM Medical College, Jamshedpur, Jharkhand has been studied.

MATERIAL AND METHODS:

This is a prospective observational study done in MGM, Medical College, Jamshedpur, Jharkhand over a period of 2 years (march 2016 to February 2018).

Study population consists of 50 cases of GOO admitted in the Department of General Surgery, MGM, Medical College, Jamshedpur, Jharkhand.

Exclusion criteria: Patients unfit for surgery
Patients with comorbities affecting the outcome of surgery
History of previous surgery

Patients of various age groups, diverse socio-economic strata and varied dietary habits presented with gastric outlet obstruction. The provisional diagnosis was based on detailed clinical history, thorough physical examination and confirmation was done based on upper GI endoscopy with biopsy while radiological investigations like CECT Abdomen and USG whole abdomen were done for staging and planning the management.

All the patients were treated pre-operatively by gastric lavage and fluid and electrolyte replacement followed by elective surgery. On laparotomy details of the operative findings, operative procedures employed and outcome of the treatment were recorded. The post-operative period was watched carefully and the patients were asked to report for follow-up at 1 and 2 weeks then monthly for 12 months.

RESULTS:

Sex distribution of study population – in present study the study population showed male predominance as shown in the table below.

table1: sex distribution of study population

Sex	Number of patients
Male	42 (84%)
female	8 (16%)

Age distribution of study population – In present study maximum 29 (58%) patients was in 40-60 years age group, 12 (24%) patients were in 60-80 years age group and 9 (18%) patients were in 20-40 years age group.

Table 2: Age distribution of study population

Age group	Number of patients
20-40 years	9
40-60 years	29
60-80 years	12

Presenting complaint of study population- in present study Copious and projectile vomiting was the commonest symptom in 47 (94%) cases followed by pain upper abdomen in 45 (90%) of cases. Something moving (gola, mass) moving in the upper part of the abdomen was complained by 16 (32%) cases & 11 (22%) had feeling of fullness (heaviness)after taking meal. 21 (42%) cases had constipation however, diarrhorea was present in 7 (14%) cases. 12 (24%) cases had anorexia and weakness at the time of admission.

Table 3: Presenting complaint of study population

Presenting complaint	Number of patients
Copious and projectile vomiting	47 (94%)
Pain in upper abdomen	45 (90%)
Mass in upper abdomen	16 (32%)
Fullness after meals	11 (22%)
Altered bowel habit	28 (56%)
Anorexia and weakness	12 (24%)

Signs present in study population- Visible peristalsis coming from left to right side in the upper part of the abdomen were present in 66% and succussion splash in 58% cases. Hard, irregular lump of different size was palpable in 18% cases. 28% of patients were dehydrated and 2% were mentally confused at the time of admission. 16% of cases were found emaciated.

Table 4: Signs present in study population

Signs present	Number of patients
Visible peristalsis from left to right	33 (66%)
Succussion splash	28 (58%)
Hard, irregular lump	9 (18%)
dehydrated	14 (28%)
mentally confused	1 (2%)
emaciated	8 (16%)

Total duration of symptom- 3(6%) of cases had features of obstruction for less than 1 month however, 11(22%) presented after completing 1-3 months. 12(24%) cases had obstructive features for 3-6 months, 9(18%) for 6-9 months and 7(14%) for 9-12 months, 5(10%) cases reported with features of more than 1 year duration. In 3(6%) cases duration was not known.

Table 5: Total duration of symptom

Total duration of symptoms	Number of patients
Less than 1 month	3(6%)
1-3 months	11(22%)
3-6 months	12(24%)
6-9 months	9(18%)
9-12 months	7(14%)
>12 months	5(10%)
Duration unknown	3(6%)

Diagnosis of the cause of GOO- All cases went throug CECT Abdomen and upper GI endoscopy with biopsy. Maximum cases 45(90%) were due to antral carcinoma, 3(6%) cases were due to duodenal ulcer cicatrisation. Hypertrophic tuberculous pyloric obstruction was the cause of gastric outlet obstruction in 1(2%) cases and in another 1(2%) it was due to perigastric adhesion.

Table 6: causes of GOO diagnosed by investigations

Causes of GOO	Number of patients
Antral carcinoma	45(90%)
Duodenal ulcer cicatrisation	3(6%)
tuberculosis	1(2%)
Perigastric adhesion	1(2%)

Surgeries performed in study population: Partial gastrectomy was done in 11(22%) cases and subtotal gastrectomy was performed in 24(48%) cases for obstructing antral carcinoma.12 (24%) cases were treated by anterior gastro-jejunostomy for palliation in advanced cases only. 3(6%) of cases of duodenal ulcer cicatrisation were treated by truncal vagotomy and gastro-jejunostomy.

Table 7: surgeries performed in study population

Surgery performed	Number of patient
Partial gastrectomy	11(22%)
Subtotal gastrectomy	24(48%)
Palliative gastrojejunostomy	12(24%)
Truncal vagotomy and gastrojejunostomy	3(6%)

Post-operative complications-Immediate post-operative complications occurred in 4(8%) cases. 2 cases had hemorrhage from anastomotic line; both responded to conservative treatment. 2 cases of antral carcinoma treated by lower radical gastrectomy developed uremia within same hospital stay out of which 1 patient died 5 days after surgery.

Follow-up results - 38(76%) of duodenal ulcer obstruction in follow-up group were relieved of their symptoms. 1(2%) case of antral carcinoma, treated by antecolic gastrojejunostomy re-obstructed within 6 months of operation and died after 9 months. Another 7(14%) cases of antral carcinoma treated by gastrojejunostomy that were on follow-up died after one year of operation. The remaining 3(6%) cases never turned for follow-up.

DISCUSSION:

The present observation on gastric outlet obstruction in 50 adults aims to find the various causes and factors involved in the causation of gastric outlet obstruction and different forms of operative procedures done to relieve it with their post-operative complications and delayed results and to discuss the findings in the light of available works.

In this study Goo was more commonly seen in elderly males which is comparable to the results of other studies.[1,4] and [5]

Most patients in our study presented with projectile vomiting and pain abdomen. Other symptoms were abdominal lump, fullness after meal, altered bowel habits and anorexia & weakness. In study done by Paatneedi Naresh Kumar et al also common symptoms were vomiting, pain, anorexia, weight loss, hematemesis, malena and jaundice.[6]

In present study most common signs in study population were visible gastric peristalsis, succussion splash, palpable lump, dehydration, mental confusion and weight loss

In Sir James Walton's words GOO is “The stomach you can hear, the stomach you can feel and the stomach you can see”. Previously GOO used to occur most commonly in association with peptic ulcer disease but after the advent of proton pump inhibitors, the complications from peptic ulcer disease have significantly decreased and now a days malignancy is the most common cause of GOO.[9] In this study also antral carcinoma was the cause of GOO in 90% of cases while peptic ulcer related GOO was seen only in 6% cases.

In this study surgery with curative intent was done in 70% of cases, of which 22% was partial gastrectomy and 48% was subtotal gastrectomy. Out of these 11(22%) cases of partial gastrectomy, one was tuberculous involvment of stomach hence postoperative antitubercular drugs was started in that patient. In advanced cases anterior gastrectomy was done with palliative intent in 24% of cases. In 6% cases of peptic ulcer related GOO, truncal vagotomy and gastrojejunostomy was done.

While minor postoperative complications in 8% of cases were managed conservatively, 2 cases developed uremia of which one patient died. During 1 year follow up period most patients did well 8 out of 12 cases of palliative gastrojejunostomy died. This may be due to advanced nature of disease in these cases.

CONCLUSION: As per this study GOO is mostly seen in elderly males. Gastric malignancy is the most common cause of GOO. If detected in early stages necessary type of gastrectomy can be done with curative intent with good postoperative result. Survival rate is poor in advanced cases.

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