



A CLINICAL STUDY OF GASTRIC OUTLET OBSTRUCTION IN ADULTS

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ABSTRACT

Introduction : Gastric Outlet Obstruction implies complete or incomplete obstruction of the distal stomach, pylorus or proximal duodenum[1]. This may occur as an obstructing mass lesion, external compression or as a result of obstruction from acute edema, chronic scarring and fibrosis or a combination of both[1,2]. Gastric outlet obstruction is not a single entity; it is the clinical and pathophysiological consequence of any disease process that produces a mechanical impediment to gastric emptying[3]. **Aims Of The Study :** To determine the relative incidence of benign and malignant gastric outlet obstruction. To study the modes of presentation of gastric outlet obstruction. To study the outcome of management of gastric outlet obstruction. **Materials And Methods :** The patients for this study have been selected from Kurnool medical college, KURNOOL from September 2020 to April 2022. In total, 50 in-patients of gastric outlet obstruction have been studied. An elaborate study of these cases with regard to the history, clinical features, routine and special investigations, pre-operative treatment, operative findings, postoperative management and complications in post-operative period is done. **Results :** Of the 50 cases of gastric outlet obstruction 26 had carcinoma antrum, 23 had cicatrized duodenal ulcer and 1 had gastric outlet obstruction secondary to corrosive ingestion. **Conclusion :** The commonest causes of gastric outlet obstruction in adults are carcinoma stomach with antral growth producing gastric outlet obstruction (52%) and cicatrised duodenal ulcer (46%). Number of cases with cicatrised duodenal ulcer as the chief etiological factor for gastric outlet obstruction is diminishing and the number of cases of antral carcinoma of stomach as the cause of gastric outlet obstruction is increasing.

KEYWORDS : Gastric Outlet Obstruction, Antral Carcinoma, Duodenal Ulcer, Corrosive Ingestion**INTRODUCTION**

Gastric Outlet Obstruction implies complete or incomplete obstruction of the distal stomach, pylorus or proximal duodenum[1]. This may occur as an obstructing mass lesion, external compression or as a result of obstruction from acute edema, chronic scarring and fibrosis or a combination of both[1,2]. Gastric outlet obstruction is not a single entity; it is the clinical and pathophysiological consequence of any disease process that produces a mechanical impediment to gastric emptying[3].

Gastric Outlet Obstruction may be caused by a heterogeneous group of diseases that include both benign and malignant conditions[1,4]. In adults, mechanical obstruction due to ulcers, tumours or gastric polyps are common causes of gastric outlet obstruction[5]. Until introduction of effective ulcer therapy, duodenal ulcer was the commonest cause of gastric outlet obstruction and malignancy was attributed to only 20% of the cases. But, now in the era of H2 blockers and proton pump inhibitors, incidence of duodenal ulcer has been decreasing. At the same time the incidence of antral carcinoma of stomach producing gastric outlet obstruction has comparatively increased.

This study has been taken up to review the changes in presentation of gastric outlet obstruction in view of changing trends in the management because of new drugs and investigatory modalities. A lack of uniformity in the criteria of accepting a case of gastric outlet obstruction lead to differences in incidences and clinical features.

In different centres, still any one of the following can be used to diagnose gastric outlet obstruction.

- Projectile vomiting of undigested food consumed previous day.
- Palpable hypertrophied stomach
- Visible gastric peristalsis
- Gastric succussion splash 3-4 hours after the last meal
- Delayed emptying of stomach on barium meal studies.
- A gastric residue of more than 500ml in an adult.
- An aspirate of more than 400ml on saline load test.

AIMS AND OBJECTIVES

- To determine the relative incidence of benign and malignant gastric outlet obstruction.
- To study the modes of presentation of gastric outlet obstruction.
- To study the outcome of management of gastric outlet obstruction

MATERIALS AND METHODS

The patients for this study have been selected from Kurnool medical

college, KURNOOL from September 2020 to April 2022. In total, 50 in-patients of gastric outlet obstruction have been studied.

Inclusion Criteria :

- Patients presenting with gastric outlet obstruction who are treated on inpatient basis.
- Patients willing for investigations and treatment.

Exclusion Criteria :

- Patients aged 20 years and below.
- Pregnant females.
- Patient with recent history of any abdominal surgeries.

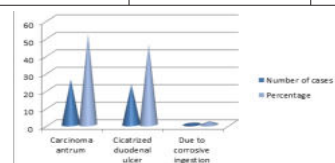
An elaborate study of these cases with regard to the history, clinical features, routine and special investigations, pre-operative treatment, operative findings, postoperative management and complications in post-operative period is done. In history, details were noted about presenting complaints, duration, history of acid peptic disease, occupation and personal history including diet, bowel and bladder habits, smoking and alcoholism. Thorough analysis of the findings of physical examination done, which included hydration status, visible gastric peristalsis, palpable mass, succussion splash, hepatomegaly and ascites. Associated conditions like anaemia, hypertension and diabetes were managed before surgery with physician's advice wherever required.

OBSERVATION AND RESULTS

Of the 50 cases of gastric outlet obstruction 26 had carcinoma antrum, 23 had cicatrized duodenal ulcer and 1 had gastric outlet obstruction secondary to corrosive ingestion.

1. Causes of Gastric Outlet Obstruction :**Table 1: Causes of gastric outlet obstruction**

| Causes | Number of cases | Percentage |
|---------------------------|-----------------|------------|
| Carcinoma Antrum | 26 | 52 |
| Cicatrized Duodenal Ulcer | 23 | 46 |
| Corrosive ingestion | 01 | 02 |
| Total | 50 | 100 |

**Graph 1. Causes of gastric outlet obstruction**

2. Age Distribution

Table 2. Age Distribution in GOO

| Age group | Number of cases | Percentage |
|-----------|-----------------|------------|
| 0-10 | 0 | 0 |
| 11-20 | 0 | 0 |
| 21-30 | 4 | 8 |
| 31-40 | 10 | 20 |
| 41-50 | 8 | 16 |
| 51-60 | 9 | 18 |
| 61-70 | 12 | 24 |
| 71-80 | 5 | 10 |
| 81-90 | 2 | 4 |

| Age group in years | Duodenal ulcer | | Carcinoma antrum | | Other s | |
|--------------------|----------------|------|------------------|------|---------|-----|
| | No. | % | No. | % | No. | % |
| 0-10 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11-20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21-30 | 4 | 17.4 | 0 | 0 | 0 | 0 |
| 31-40 | 6 | 26.0 | 3 | 11.6 | 1 | 100 |
| 41-50 | 4 | 17.4 | 4 | 15.4 | 0 | 0 |
| 51-60 | 3 | 13.0 | 6 | 23.0 | 0 | 0 |
| 61-70 | 5 | 21.8 | 7 | 27.0 | 0 | 0 |
| 71-80 | 1 | 4.4 | 4 | 15.4 | 0 | 0 |
| 81-90 | 0 | 0 | 2 | 7.6 | 0 | 0 |

3. Sex Incidence :

Table 3. Sex incidence in GOO

| Sex | Total number of cases | Duodenal ulcer | Carcinoma antrum | Others |
|--------|-----------------------|----------------|------------------|--------|
| Male | 42 | 21 | 20 | 1 |
| Female | 8 | 2 | 6 | 0 |
| Total | 50 | 23 | 26 | 1 |

4. Personal history in present series :

1. Socio-Economic Status

Majority of patients were from low socio – economic status.

2. Diet.

90% of patients were taking mixed diet and 10 % patients were taking vegetarian diet. 39 patients (78%) had history of irregular diet habits.

3. Smoking.

68% of the patients were smokers in this series and 32% were non – smokers.

4. Alcohol

66% of the patients in this series gave history of consuming alcohol.

5. Occupation of patients :

Table 4. Occupation of the patients

| Occupation | Total number of cases | Percentage |
|------------|-----------------------|------------|
| Labourer | 26 | 52 |
| Farmers | 19 | 38 |
| Housewife | 5 | 10 |

Total number of cases



Graph 2. Occupation of the patients

6. Symptoms :

Table 5. Symptoms of the patients presenting as GOO.

| Symptoms | Cicatrized duodenal ulcer | Carcinoma antrum | Others | Total number of cases |
|------------------------|---------------------------|------------------|---------|-----------------------|
| Pain | 22 (95.65) | 25 (96.15) | 1 (100) | 48 (96) |
| Vomiting | 23 (100) | 24 (92.30) | 1 (100) | 48 (96) |
| Anorexia | 19 (82.60) | 22 (84.62) | 1 (100) | 42 (84) |
| Weight loss | 19 (82.60) | 17 (65.40) | 0 | 36 (72) |
| Post prandial fullness | 18 (78.26) | 15 (57.70) | 1 (100) | 34 (68) |
| Haematemesis | 5 (21.74) | 7 (26.92) | 0 | 12 (24) |

| | | | | |
|--------------|------------|------------|---|---------|
| Malena | 14 (60.86) | 18 (69.23) | 0 | 32 (64) |
| constipation | 11 (47.82) | 13 (50) | 0 | 24 (48) |

7.Types of surgical procedures adopted in the study :

Table 6. The types of surgical procedures underwent by the patients.

| Procedure | Number of cases | Percentage |
|--|-----------------|------------|
| 1. Duodenal ulcer cases | 23 | 100 |
| ➤ Truncal vagotomy with gastrojejunostomy | | |
| 2. Carcinoma antrum cases | 7 | 26.92 |
| ➤ Billroth II gastrectomy | | |
| ➤ Anterior gastrojejunostomy | 11 | 42.30 |
| ➤ Roux-en-Y anastomosis after total gastrectomy | 2 | 7.70 |
| ➤ Anterior gastrojejunostomy with limbal anastomosis | 3 | 11.54 |
| ➤ Billroth II gastrectomy with feeding jejunostomy | 3 | 11.54 |
| 3. Others | 1 | 100 |
| ➤ Posterior gastrojejunostomy | | |

DISCUSSION

The discussion are mainly on analysis and observation made regarding the presenting symptoms, signs, investigations, operative findings, management and postoperative events in 50 cases of gastric outlet obstruction admitted to Kurnool medical college from September 2020 to April 2022.

Out Of 50 cases

- Gastric outlet obstruction secondary to carcinoma pyloric region – 26
- Gastric outlet obstruction secondary to cicatrized duodenal ulcer – 23
- Gastric outlet obstruction secondary to corrosive ingestion – 1.

All the patients were subjected to a standard pre-operative treatment, which included stomach wash twice a day for three days prior to surgery. Pre-operatively stomach was dilated in majority of the cases. Post-operatively aspiration was continued till bowel movements established by noting bowel sounds, passing of flatus and gross reduction in quantity of Ryle's tube aspiration. Later on patients were allowed to take oral fluids and then liquid and solid diet. In this series five patients had wound infection and were treated by repeated dressing and appropriate antibiotics. Four patients had respiratory tract infection and were treated by review of antibiotics and chest physiotherapy.

FOLLOW UP

- All patients of antral carcinoma were treated postoperatively by chemotherapy.
- Most of the stenosing duodenal ulcer cases were lost for follow up.
- There has been no recurrence of symptoms in any of the cases that turned up for follow up.

CONCLUSION

Some of the conclusions which can be drawn from this series are as follows:

- The commonest causes of gastric outlet obstruction in adults are carcinoma stomach with antral growth producing gastric outlet obstruction (52%) and cicatrised duodenal ulcer (46%).
- In the vast majority of cases, the diagnosis can be established clinically.
- Upper Gastro intestinal endoscopy should be mandatory in all suspected cases of gastric outlet obstruction. It can diagnose the cause of obstruction very effectively than any other investigative modality.
- Number of cases with cicatrised duodenal ulcer as the chief etiological factor for gastric outlet obstruction is diminishing and the number of cases of antral carcinoma of stomach as the cause of gastric outlet obstruction is increasing.
- Effective treatment in carcinoma stomach depends on early diagnosis

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