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A Clinical Study on Gastric Outlet Obstruction

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Abstract: *The aetiology of Gastric Outlet Obstruction has changed from benign to malignant cause. Until late 1970's benign disease was responsible for the majority of Gastric Outlet Obstruction in adults, while malignancies accounted for only 10 to 39% of cases. By contrast in recent decades 50 to 80% of cases have been attributed to malignancies. 50 cases of well documented patients with Gastric Outlet Obstruction admitted in Thanjavur medical college hospital, Tamilnadu During the period between august 2014 to august 2016 were studied in depth. The total numbers of 50 patients were treated for Gastric Outlet Obstruction with a male to female ratio of 2.12:1 and most of the cases belonged to the age range of 35 to 55 years. The predominant cause for Gastric Outlet Obstruction was found to be gastric malignancy (74%).*

Keywords: *Gastric Outlet Obstruction, Gastric Malignancy, Chronic Duodenal Ulcer.*

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I. Background

Gastric Outlet Obstruction is a disorder wherein there is an obstruction in the opening of the stomach (Pylorus), blocking the entrance of ingested food coming from the stomach to the duodenum. Gastric Outlet Obstruction is the one of the most common problem encountered in general surgery, Predominant cause for Gastric Outlet Obstruction have changed substantially with identification of H. Pylori and the use of proton pump inhibitor. Until the late 1970's benign disease was responsible for the majority of Gastric Outlet Obstruction in adult, while malignancy accounted for only 10-39% of causes, By contrast in recent decades 50-80% of cases have been attributed to malignancy. In this study the various aspects and management of Gastric Outlet Obstruction are analysed. In this study the focus is on the two most common causes of Gastric Outlet Obstruction and their management.

II. Aim

To study the aetiology, sex, age distribution, modes of presentation and management strategies of Gastric Outlet Obstruction in Thanjavur Medical College Hospital.

III. Methodology

This is a prospective review of patients with confirmed Gastric Outlet Obstruction seen and managed in the Department of general surgery and Department of Surgical Gastroenterology in Thanjavur Medical College hospital from August 2014 to August 2016. About 50 patients were included in this study with the information of age, sex, modes of presentation, various types of management, and their outcome.

Study Center

The study was conducted in the Thanjavur Medical College Hospital, Thanjavur, a tertiary hospital which is located in the Southern part of India. The hospital is the major referring centre for 8 districts in Tamilnadu.

IV. Results

During the period from August 2014 to August 2016, a total of 50 adult patients were diagnosed and managed for Gastric Outlet Obstruction in the Thanjavur Medical College Hospital.

2.1 Aetiological Pattern : Overall the causes were Carcinoma of the Antrum in 37 Patients (74%), Chronic Duodenal Ulcer in 12 Patients (24%) and Carcinoma of the Pancreas in 1 Patient (2%).

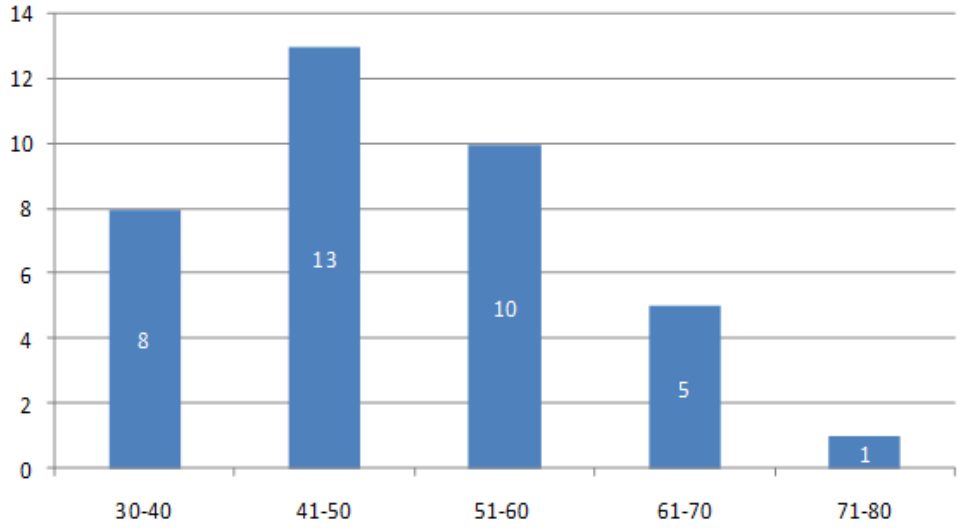
	Number Of Cases	Percentage
Carcinoma Of The Antrum	37	74%
Chronic Duodenal Ulcer	12	24%
Other Causes	1	2%

2.2 Age Distribution: The patients age ranged from 20 to 80 years. In these both causes the predominant age group was 41-50 years.

Age Distribution Of Antral Carcinoma

Age Interval	Number Of Cases	Percentage
30-40	8	21.62%
41-50	13	35.13%
51-60	10	27.02%
61-70	5	13.51%
71-80	1	2.70%
Total	**37**	

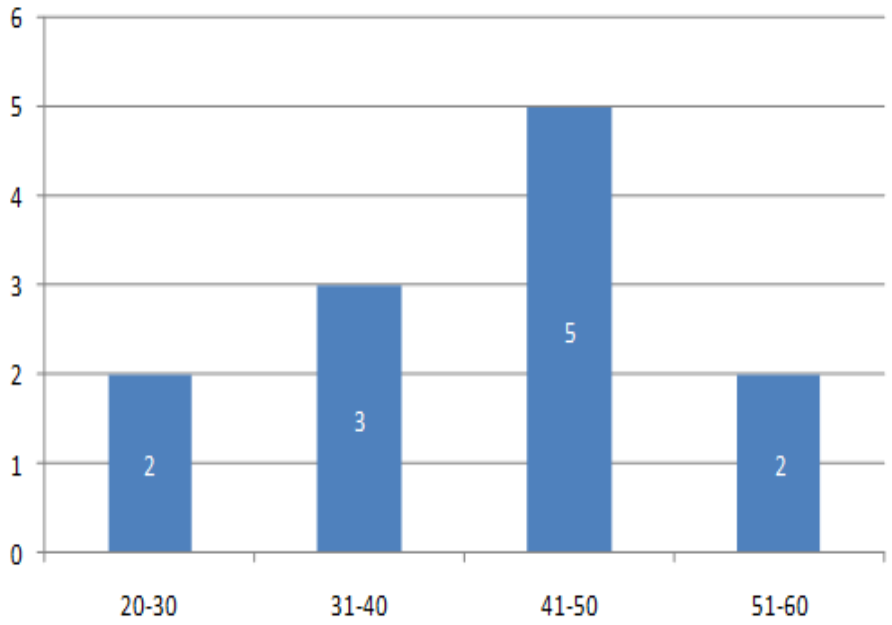
Lowest Age Of Occurrence	35 Years
Highest Age Of Occurrence	80 Years
Commonest Age Group	41 To 50



Age Distribution Of Chronic Duodenal Ulcer

Age Interval	Number Of Cases	Percentage
20-30	2	16.66%
31-40	3	25%
41-50	5	41.66%
51-60	2	16.66%
Total	**12**	100%

Lowest (Age of occurrence)	29 years
Highest (Age of occurrence)	58 years
Commonest age group	41 – 50 years



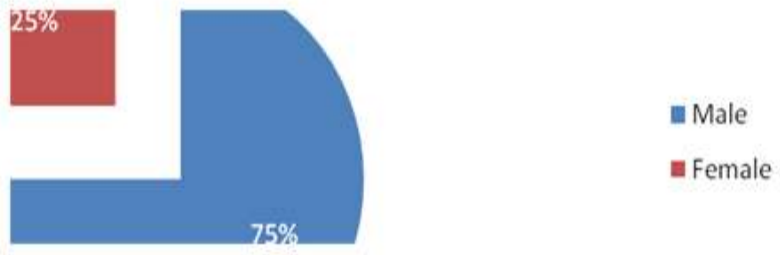
2.3 Sex Distribution: In both Antral carcinoma and Chronic duodenal Ulcer male are predominant.

Sex Distribution Of Antral Carcinoma

Sex	Number of Cases	Percentage
Male	25	67.57%
Female	12	32.43%
Total	**37**	

Sex Distribution Of Chronic Duodenal Ulcer

Sex	**Number of Cases**	**Percentage**
Male	9	75%
Female	3	25%
Total	**12**	



2.4 Clinical Presentation were as follows.

	CARCINOMA PYLORIC ANTRUM	DUODENAL ULCER
Vomiting	37	12
Abdominal Mass	9	-
Epigastric Discomfort	27	8
Visible Gastric Peristalisis	30	8
Dilated Stomach	8	3
Electrolyte Abnormality	15	8

The commonest mode of presentation is vomiting in both carcinoma pyloric antrum and chronic duodenal ulcer (100%).

2.5 The following surgical procedures were performed.

Antral Cancer with gastric outlet obstruction.

- Subtotal gastrectomy with Billroth II Anastamosis in 25 Patients
- Anterior long loop gastrojejunostomy in 12 Patients.

Chronic Duodenal Ulcer with Gastric Outlet Obstruction.

- Truncal vagotomy with short loop posterior gastrojejunostomy in 12 Patients.

Gastric Outlet Obstruction due to carcinoma head of pancreas.

- Triple bypass

2.6 Complications:

In the post operative period of the patients who underwent truncal vagotomy with posterior gastrojejunostomy, two patients had wound dehiscence.

The majority of the patients who underwent subtotal gastrotomy with Billroth type II anastomosis and anterior gastrojejunostomy had uneventful postoperative period except 4 patients.

- One patient had wound infection.
- One patient had wound dehiscence
- One patient had biliary gastritis.
- One patient had bilious vomiting.
- The patients were discharged and advised to come for palliative chemotherapy.
- No mortality in our series.

V. Discussion

- 50 patients with Gastric Outlet Obstruction were included in this study, out of which 37 cases (74%) had mailignancy of antrum of stomach and 12 cases (24%) had chronic duodenal ulcer.
- The commonest age group for carcinoma antrum with Gastric Outlet Obstruction is 41-60 years and that of chronic duodenal ulcer with Gastric Outlet Obstruction is 41-50 years.
- In carcinoma of stomach with Gastric Outlet Obstruction, males were 25 in number (ie) 68% and in chronic duodenal ulcer with Gastric Outlet Obstruction males were 9 in number (ie)75% showing male the predominance.
- Various previous studies show similar male predominance.

- The commonest mode of presentation is vomiting in both carcinoma pyloric antrum (100%) and chronic duodenal ulcer (100%)
- Visible gastric peristalsis is present in 81.08% of Ca pyloric antrum and 68.66% of chronic duodenal ulcer.
- Three patients had jaundice and had serum bilirubin greater than 2 mg%.

No diabetic patients were found in this group.
The accuracy of UGI scopy was 100% in confirming the aetiology of gastric outlet obstruction.
CT abdomen was the modality by which staging was decided in all cases of malignant Gastric Outlet Obstruction as found in previous studies.
- In antral cancer with gastric obstruction.
- Subtotal gastrectomy with Billroth II anastomosis was done in 25 patients
- Anterior gastrojejunostomy was done in 12 inoperable patients.
- In chronic duodenal ulcer with Gastric Outlet Obstruction ie in 12 patients, Truncal vagotomy with Posterior Gastrojejunostomy was done.
- In the case of Ca Head of the pancreas triple bypass was done.

In the post operative period of the patients who underwent truncal vagotony with posterior gastrojejunostomy, two patients had wound dehiscence. They were managed with appropriate antibiotics. Secondary suturing was done later. The majority of the patients with carcinoma pyloric antrum had uneventful post operative period except 4 patients who were managed conservatively. The patients were discharged and advised to come for palliative chemotherapy.
No mortality in our case study.

VI. Summary And Conclusion

Gastric Outlet Obstruction is the commonest disease with significant morbidity and mortality

50 cases of well documented Gastric Outlet Obstructions admitted in TMCH during the period between Aug 2014 to Aug 2016 were studied in depth.

The following conclusion were made in our study

- Carcinoma of the antrum of stomach was the commonest cause for Gastric Outlet Obstruction.
- Age incidence varies between 51-60 years .Patients of 5^{th} and 6^{th} decades were the commonest victims.
- Slight male predominance was observed in our study.
- Vomiting was the commonest presentation of Gastric Outlet Obstruction.
- UGI scopy was invaluable in the diagnosing the aetiology of the Gastric Outlet Obstruction because of simplicity repeatability and 100% accuracy in our study.
- Subtotal gastrectomy with billroth II gastro jejumostomy is the most widely followed method of surgical treatment for carcinoma pyloric antrum.
- Truncal vagotomy with posterior Gastrojejunostomy was the most commonly performed surgery for duodenal ulcer with Gastric Outlet Obstruction.
- Mortality rate in our study is 0%.

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