

Prospective Interventional Study of Cases of Gastric Outlet Obstruction Presenting at Tertiary Care Centre Rims, Ranchi

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Abstract: *Background: A Prospective interventional study was conducted in RIMS, Ranchi from January 2019 to May 2020 to determine various causes and modes of presentation of Gastric Outlet Obstruction (GOO), to determine the benign and malignant causes and the outcome of various treatment modalities.*

Keywords: Gastric outlet obstruction (GOO), electrolyte, malignant, antral carcinoma, pyloric stenosis

1. Introduction

- Gastric outlet obstruction (GOO) is a clinical condition in which there is partial or complete mechanical obstruction of stomach to its content or the cause which impedes gastric emptying.
- It is largely been categorized into-benign and malignant.
- Formerly benign causes were more prevalent due to chronic gastric and duodenal ulceration now it has reduced after introduction of H2 receptor blocker and Proton pump inhibitor.
- Now large number of cases of GOO are due to gastric carcinoma.
- The proximal stomach is now the most common site for gastric carcinoma in the west but in Japan and developing countries like India the distal gastric cancer (antrum 13% and pylorus 7%) still predominates.
- The most common symptoms are abdominal fullness, early satiety, vomiting and weight loss. Early symptoms are epigastric fullness or heaviness after meals.
- Later, vomiting may develop that typically occurs one to several hours after eating and consists of partially digested food eaten that day or the previous day.
- The vomitus is characteristically totally lacking in bile.
- The patient commonly complains of losing weight and appears unwell and dehydrated.
- Clinical picture of outlet obstruction due to carcinoma of pylorus resembles benign gastric outlet obstruction more rapidly than do peptic ulcer.
- Characteristic features of malignant gastric outlet obstruction are-the history is short (a few months), there may or may not be any previous history of peptic ulcer, Anorexia, nausea and vomiting rate constant, vomiting affords little relief, the vomiting is offensive containing altered blood, coffee ground, " loss of weight is marked, there may be severe

2. Aims and Objective

- To observe the various causes of gastric outlet obstruction in tertiary care centre, RIMS.

- To determine the incidence of benign and malignant gastric outlet obstruction.
- To study modes of presentation of gastric outlet obstruction.
- Evaluation of electrolyte abnormalities in gastric outlet obstruction.
- To analyses the outcome of treatment modalities applied in different cases.
- Extension of greater curvature in gastric outlet obstruction.

3. Methods

- Prospective interventional study comprising 60 cases of gastric outlet obstruction.
- All patients are selected from Rajendra Institute of Medical Sciences Ranchi Jharkhand India presented with features of gastric outlet obstruction in emergency from January 2019 to May 2020.
- These cases of benign or malignant gastric outlet obstruction formed the material of the study.
- Cases are described and categorized on the basis of their age incidence, sex incidence, their causative risk factors, socioeconomic status, personal habit and other important associated factors. The provisional diagnosis was based on-Detailed clinical history, thorough physical examinations including-
 - General examination
 - Abdominal inspection, palpation for any obvious abdominal lump, percussion and auscultation for succussion splash.
- Routine laboratory investigations and some Radiological investigations like-
 - Plain x-ray abdomen
 - Barium-meal X-ray of stomach and duodenum
 - Upper gastrointestinal tract endoscopy
 - CT scan whenever possible

Diagnosis

- Barium meal X-ray of stomach and duodenum can detect nature and site of obstruction, huge dilation of large & atonic stomach.

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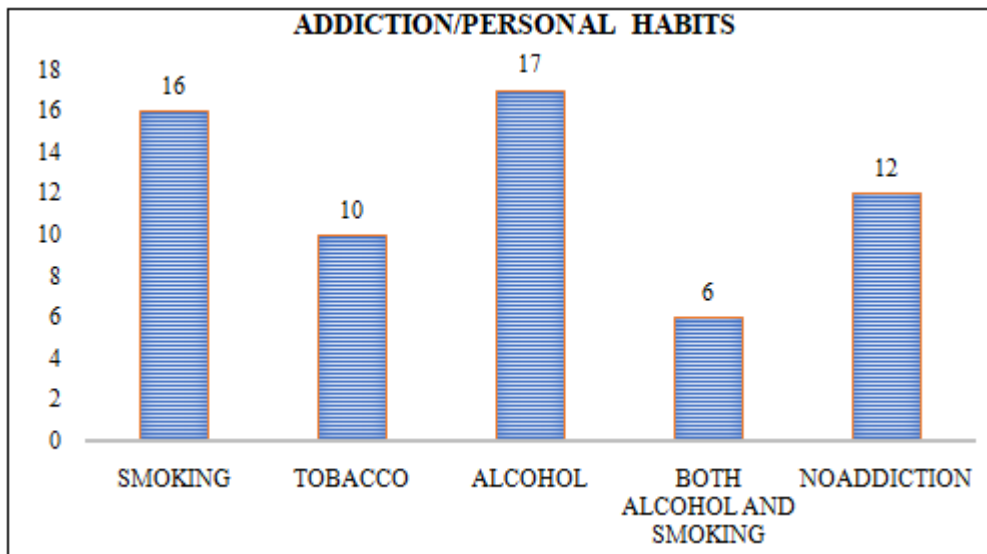
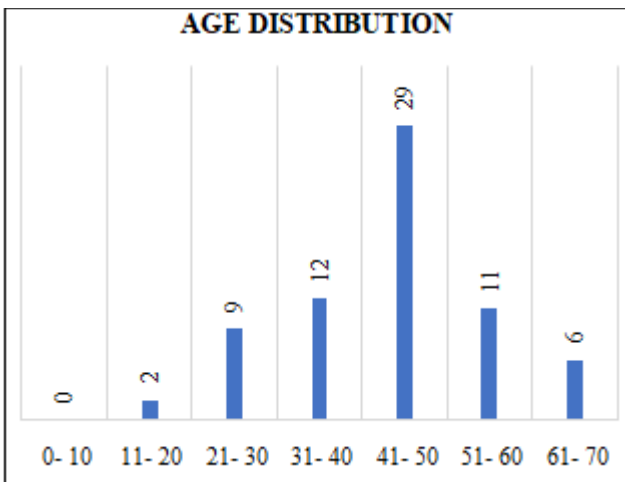
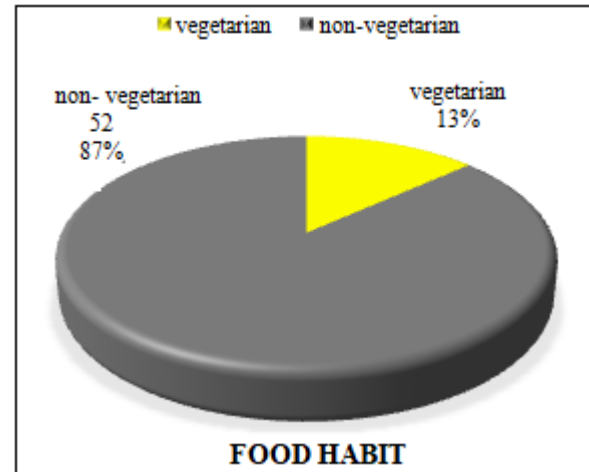
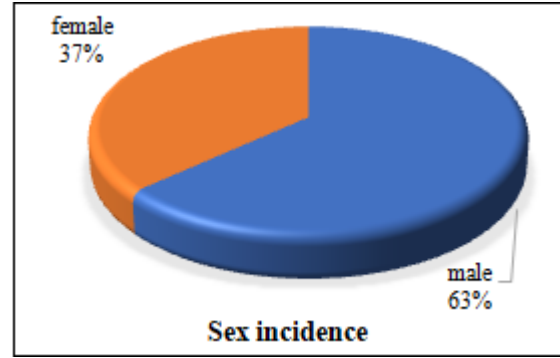
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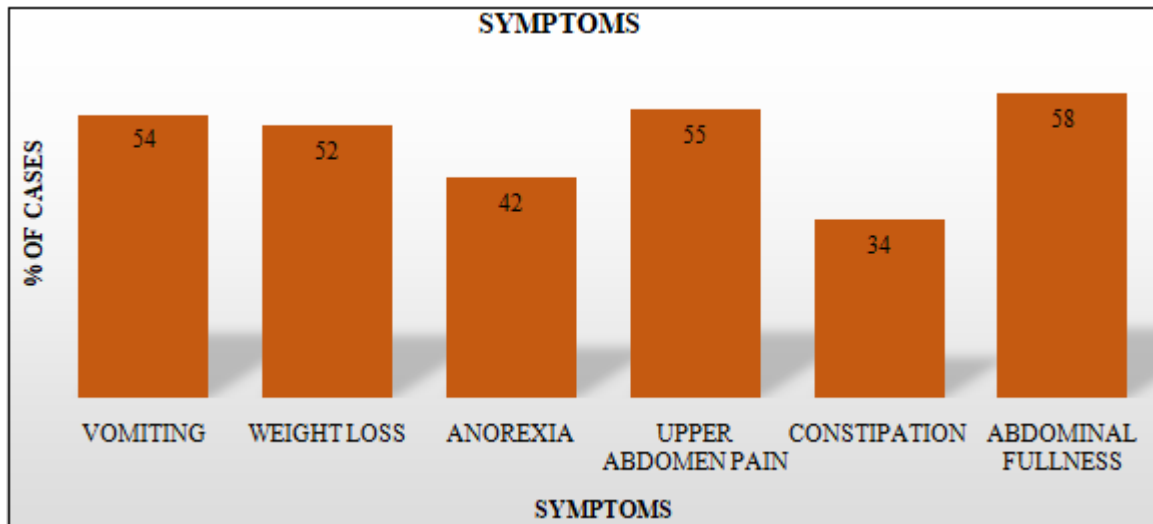
- A filling defect in the region of antrum suggests carcinoma of stomach.
- Upper gastrointestinal endoscopy with multiple biopsies is useful for diagnosis and treatment of gastric outlet obstruction.
- CT scan is used for gastric malignancy and its extension.

Treatment

- Treatment does not begin with surgery but assessing and correcting the metabolic disturbance of these critically ill, dehydrated and emaciated patient with severe electrolyte imbalance, low haemoglobin count and low albumin.
- The definitive treatment involves surgical relief of the gastric outlet obstruction.
- For benign disease vagotomy and antrectomy or pyloroplasty, highly selective vagotomy and posterior gastrojejunostomy are preferred procedures.
- Bilroth II radical partial gastrectomy remains the surgical treatment of choice which may vary on stage and spread of disease.

4. Result





Derranged Electrolyte Values in No. of Patients

Table 1: Aetiology of Gastric Outlet Obstruction

Aetiology of obstruction	No. of cases	%
Antral carcinoma	39	65
Benign pyloric stenosis	15	25
Pseudopancreatic cyst	4	6
Duodenal carcinoma	2	3

Table 2: Operative procedure distribution

Serum electrolytes	Benign		Malignant	
	No.	%	No.	%
Serum sodium	44	73	24	40
Serum chloride	39	65	26	43
Serum potassium	34	56	17	28
Serum calcium	16	26	12	20

Table 3

Operation performed	No. of cases	Benign	Malignant	%
Gastrojejunostomy				
• Anterior	30	1	29	50
• Posterior	12	12	0	20
Bilroth II	9	0	9	15
Truncalvagotomy with gastrojejunostomy	4	4	0	6
Cystogastrostomy	4	4	0	6

- 1) The youngest age of patient was 15 years and oldest 70 years with majority being in 41-50years (48%) group.
- 2) Majority of food habit is related to non veg (87%).
- 3) In Personal habit alcohol and then smoking is the cause with 28% and 26% respectively.
- 4) In patient complain fullness remains the most common symptom (58%).
- 5) In Aetiology of obstruction antral carcinoma (65%) is most common.
- 6) Electrolyte imbalance is more common in benign, Na (73%), Cl (65%), K (56%).
- 7) Operative
- 8) gastrojejunostomy
 - anterior-50%
 - posterior-20%
- 9) Bilroth-15%

5. Discussion

- Of 65% of antral carcinoma 80% are male and 20% are female.
- Of 25% benign pyloric stenosis 72% are male 28% are female.
- Incidence in male are more common than female.
- Abdominal fullness is most consistent complain after that is vomiting.
- Alcohol and smoking are the risk factors.
- Most common cause for obstruction is antral carcinoma.
- All cases were operated in 50% of which anterior 50% and posterior 20% gastrojejunostomy done.15% Bilroth done.6% cystogastrostomy.
- On auscultation greater curvature is delineated below or upto umbilicus but in carcinoma greater curvature is delineated upto or above umbilicus.

6. Conclusion

- This study supports that gastric outlet obstruction is now more commonly due to antral carcinoma than pyloric stenosis in developing countries.
- Male are more prone to gastric carcinoma due to smoking and alcohol intake.
- Patient of 4th decade are more affected than the others.
- Fullness of abdomen and mild epigastric pain remains the most consistent complain.
- Electrolyte are more deranged in benign cases due to chronicity.
- Most of the cases present late due to which only palliative treatment is the option.
- Early presentation and early diagnosis increases the life expectancy of patient.

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