

A Prospective Study of Incidence of Gastric Carcinoma in Patients Presenting with Dyspepsia in a Tertiary Care Hospital

Bharat Kumar Behera¹, Ramakanta Mohanty¹

¹Associate Professor, Department of Surgery, F. M Medical College, Balasore, Odisha, India.

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ABSTRACT

Background: Gastric carcinoma often present with nonspecific symptoms like dyspepsia. Early diagnosis of gastric carcinoma is of utmost importance to reduce mortality. Our aim was to detect gastric carcinoma in patients presenting with dyspepsia symptoms for upper gastrointestinal endoscopy and to study the incidence of stomach carcinoma related to factors like age, alcohol and smoking. **Methods:** This prospective study was a study of 130 patients with dyspepsia attending OPD of general surgery, F. M Medical College, Balasore, during the period from Jan 2018 to Jan 2019. A detail history was taken and clinical exam was carried out. Patients were selected according to the inclusion criteria. All patients underwent routine investigations, endoscopic evaluation & biopsy. **Results:** Out of the 130 patients subjected to gastric endoscopy, 13 (10%) of them had gastric carcinoma. Mean age of the patient in the study was 54.7 yrs. Majority of the patients were males 60% (n - 78) and females were 40% (n - 52). Gastric carcinoma was predominantly seen in males - 69% and females - 31%. Gastric carcinoma had strong association with smoking 100%, which showed peak in incidence in the fifth and sixth decade. **Conclusion:** High index of suspicion by clinicians and availability of endoscopic facilities may help to detect early lesions, especially in elderly patients with dyspepsia.

Keywords: Acid peptic disease, dyspepsia, gastric cancer, gastrointestinal endoscopy.

INTRODUCTION

Of all adults 30–40% experience symptoms of upper abdominal pain or discomfort but an organic cause is found in only a minority who seek medical care.^[1] The remaining group is labeled as having functional dyspepsia. It is a condition of impaired digestion and symptoms include abdominal fullness, nausea, belching, or upper abdominal pain. There is a prevalence of about 40% in the general population.^[2] The prevalence is lower if patients with any symptoms of heartburn and regurgitation are excluded. The common organic causes of dyspepsia are peptic ulcer, esophagitis and cancer. To evaluate dyspepsia, endoscopy is considered gold standard investigation.^[3] It is the discretion of the treating doctor or indicated for those patients with persisting dyspeptic symptoms. As early gastric carcinoma and peptic ulcer disease both share similar pathophysiology, subjecting patients with dyspepsia for UGI endoscopy gains importance.^[4] This study was conducted in our hospital to know the incidence of

gastric carcinoma by subjecting the patients presenting with history of dyspepsia disease to UGI endoscopy and to study the incidence of carcinoma stomach related to factors like age, sex, alcohol and smoking.

MATERIALS AND METHODS

Our study includes patients with dyspepsia attending OPD of general surgery, F. M Medical College, Balasore, during the period from Jan 2018 to Jan2019. Data were collected in all clinically diagnosed cases of dyspepsia - patients coming with complains of abdominal distension/fullness, bloating, nausea, heart burn, and vague upper abdominal pain. These patients underwent gastric endoscopy at our hospital. A written informed consent was obtained from each patient enrolled in this study. A brief history and clinical examination was carried out in every patient. Consent for gastric endoscopy was taken and then the procedure carried out. Multiple (6-8) biopsies from suspected lesions were taken and sent for histopathological examination.

Inclusion criteria

Includes patients attending our hospital with the complaints of dyspepsia symptoms both sexes above

Name & Address of Corresponding Author

Dr. Ramakanta Mohanty,
Associate Professor,
Department of Surgery,
F. M Medical College,
Balasore, Odisha, India.

the age of 25-year. Exclusion criteria includes patients of age <25 years and advanced gastric carcinoma. The data collected were analyzed using frequency, percentage, chi-square test and Fisher's exact test.

RESULTS

In our study the following observations were made.

Table 1: Incidence of various types of dyspepsia (with or without malignancy)

	No. of patients	Percentage
Total no. of dyspeptic patients	130	
Functional dyspeptic patients	104	80%
Organic dyspepsia	26	20%
Organic dyspepsia without malignancy	13	10%
Organic dyspepsia with malignancy	13	10%

Among 26 cases of organic dyspeptic patients, 13 patients (10%) were malignant & 13 patients (10%) were without malignancy.

Table 2: Incidence of gastric malignancy in dyspeptic patients in different age groups

Age in years	No of patients	Percentage
0-10 yrs	00	00
11-20	00	00
21-30	00	00
31-40	01	0.07%
41-50	03	23%
51-60	04	30%
61 & above	05	38%

There is maximum incidence of malignancy in 6th decade (38%)

Table 3: Sex incidence of gastric malignancy in dyspeptic patients

Sex	Total no of patients (130)	No of cases of malignancy (%)
Male	78(60%)	24(69%)
Female	52(40%)	16(31%)

No of male patients were more than female patients.

Table 4: Incidence of gastric malignancy in dyspeptic patients as per their socioeconomic status

Socioeconomic group	No. of patients	Percentage
Upper class	2	15%
Middle upper class	2	15%
Middle lower class	3	23%
Lower class	6	46%
Total	13	100%

Incidence is more common in lower socioeconomic group (46%).

Table 5: Incident of gastric malignancy in relation to habits & addictions

Types of addictions	No. of patients	Percentage
Smoking	13	100%
Alcohol	8	76%
Tobacco chewing	5	38.46%
None	01	0.07%

Majority of patients are smokers followed alcoholics. Most patients had multiple addictions.

DISCUSSION

Dyspepsia accounts for about 4–5% of all the general practitioner consultations and 20–40% of all gastroenterological consultations.^[5] Initial evaluation should focus on the identification and treatment of potential causes of symptoms such as gastro-esophageal reflux disease, peptic ulcer disease, and medication side effects but also on recognizing those at risk for more serious conditions such as gastric cancer. Endoscopy is recommended as the first investigation in the work up of a patient with dyspeptic symptoms and is essential in the classification of the patient's condition as organic or functional dyspepsia. Approximately 40% of dyspeptic patients have an organic cause, and only 20% of patients have significant gastroduodenal lesions, such as peptic ulcer.^[6] The most commonly reported major endoscopic abnormalities are: gastric ulcer (1.6–8.2%), duodenal ulcer (2.3–12.7%), esophagitis (0–23.0%), and gastric malignancy (0–3.4%). Only in a few cases are dyspeptic symptoms caused by gastro-esophageal malignancy.^[7] While gastric or esophageal cancer is an unusual finding in patients with dyspepsia, excluding malignancy is a common reason given for performing endoscopy.^[8] Once an organic cause for symptoms has been excluded, a diagnosis of functional dyspepsia can be made.^[8]

Gastric carcinomas are predominately found in male with incidence peaking up during the fifth decade; similar results have been shown in our study too. This finding corroborates with finding of Hajmanoochehri et al. who in their hospital based retrospective study of 20-year showed male patients had a large predominance (sex ratio = 2.33/1) and presenting at sixth decade.^[9]

Diet and lifestyle also playing an important role and is a high risk factor for gastric carcinoma. Vegetables and fruits are found to be protective factors, while pickled food, high rice intake, spicy salty food, consumption of high-temperature foods, smoked dried salted meat or fish, have been shown to have significant dietary risk factors. Collaborating with other studies most of our patients were consuming diet rich in vegetables, pulses and less of red meat hence the probability of incidence of gastric carcinoma has been seen less in our and other Indian studies compared with the high risk population where the consumption of meat, high nitrates and smoked food is more.^[10] Wong and Lam showed in their study that food and nutritional factors play a major role in gastric carcinogenesis. Although fruit and vegetables have an inverse relationship with gastric malignancy, intake of salted food increases the incidence.^[11]

In our study, 100% of those who had gastric carcinoma had strong association with smoking in sync with other studies. Koizumi et al.^[12] examined the association between cigarette smoking and the risk of gastric cancer in their prospective cohort studies. They found the higher number of cigarettes smoked per day was associated with a linear increase in risk and also significant increase in risk for past smokers remained for up to 14-year after cessation.^[13]

Alcohol did show association with carcinoma stomach in our study (76%). This is comparable to others who also showed any association between them. The meta-analysis was performed by Tramacere et al. proves there is absence of association between alcohol drinking and gastric adenocarcinoma risk, even at higher doses of consumption.^[14]

Most of the patients with gastric cancer do present with alarm symptoms and chances of them being in the advance stage is more. Maconi et al. have shown in their study that the risk of death is nearly threefold in patients with at least one alarm symptom compared with that in patients with uncomplicated dyspepsia.^[15] Health education for patients and making gastric endoscopy a standard screening investigation for patients above the age of 50-year with dyspeptic symptoms will take a step forward in the early detection of gastric cancer.

CONCLUSION

Early detection of gastric carcinoma decreases mortality and morbidity. So surveillance with endoscopy becomes an important tool for screening. Hence, it is recommended that clinicians must advise endoscopy in patient who have high risk history, especially males above the age of 50-year presenting with dyspeptic symptoms not reduced by empirical treatment and patients presenting with alarm symptoms.

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