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Older male subjects underwent UGI endoscopy had higher probability of malignant findings in Oesophageal & stomach - a cross sectional study from a tertiary care hospital, Kolkata

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Abstract
Introduction: *Cancer of the esophagus is the 6th most common cause of cancer-related death worldwide and 4th most for India with a poor prognosis. Likewise upper gastro intestinal morbidities are of great concern due to its rapidly changing trend in today's world. Older male population is more affected compared to younger population due to chronic exposure of several risk factors including food habits, addiction, stress etc. Some genetic factors may also be involved.*
Objective: *To estimate the prevalence of different gastro-intestinal morbidities and to describe the association between age group and gender with the type of GI morbidity, if any.*
Materials and Method: *It was an observational study with cross sectional design conducted in Medical College & Hospital, Kolkata during January, 2016 to April, 2016 among 139 patients.*
Results: *Majority of the study subjects were diagnosed to have Carcinoma of Oesophagus (43.2%) and Gastritis (13.7%). The diagnosis of Laryngo-pharyngeal Reflux Disease (LPRD), Duodenal Ulcer and Barret's Oesophagus was found to be least i.e. accounting for 0.7% each. 45.3% of the study subjects were diagnosed to have malignant disease while 38.1% were having benign conditions. Statistical significant association have observed between higher age group and male gender in development of malignancy.*
Conclusion: *There is a significant association of higher age group and the increased probability of development of malignancy of the upper GI Tract. The study also concluded the positive association of male gender and development of malignant disease of the upper GI Tract.*
Recommendation: *Older male subjects presenting with dyspepsia or upper GI symptoms may undergo early endoscopy to rule out malignancy*
Keywords: *UGI Endoscopy, Malignant diseases, Older Males.*

Introduction

Esophago-gastro-duodenoscopy is an important tool to visualise the upper part of the gastrointestinal tract up to the duodenum[1].

Esophageal cancer is the eighth most frequently diagnosed cancer worldwide[2], and because of its poor prognosis it is the sixth most common cause of cancer related death[3]. In India it is the fourth

most common cause of death. It is around three times more common in men than women[2].

Population- based data suggest that esophageal cancer incidence peaks in the sixth decade in most parts of the world[4] and the same trend has been reported in India. A more recent data from a study in CMC Vellore revealed that the mean age of esophageal cancer was 52 years and the male: female ratio was 3:1. A study of 50 cases undergoing EGD scopy by Barros P., Bussaleu A[5] showed following results: Normal 30%, Duodenitis 18% and other lesions likeulcer and gastritis in rest two percent patients. Results from Ray S et al. in evaluation of Upper GI endoscopy showed duodenal ulcer 12%, gastritis 26%, Ca stomach 8%, gastric ulcer 4%, reflux esophagitis 6%, normal 16% showing lesions in 84% cases[6]. Estimates about the expected number of cancers are useful to plan and prioritize health care services. This study was undertaken to find out if there was any association of development of malignant diseases with higher age and sex. Estimation of different types of gastro intestinal diseases was also done.

Materials and Methods

It was an observational study with cross sectional design conducted in Medical College & Hospital, Kolkata after getting ethical clearance from Institutional Ethical Committee and informed consent of the study participants. The study duration was during January, 2016 to April, 2016.The expected sample size was calculated to be 190 although due to scarcity of patients in a short period, only 139 patients who have presented with history related to gastric disorders and have been subjected to endoscopy were included by consecutive sampling method. Selection of both sexes in the age group ranging from 20 years to 85 years was done. After history taking and physical examination patients were subjected to endoscopy. Some socio-demographic variables of the study subjects were collected in a pre-designed schedule and their endoscopy reports

were documented. Unstable patients and those who didn't give consent were excluded from the study. Fibre optic flexible Osophago-gastro-duodenoscope was used. Descriptive statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean ± SD (Min-Median-Max) and results on categorical measurements are presented in Number (%). Significance is assessed at 5 % level of significance. The Statistical software namely SAS 9.2, SPSS 21.0 were used for the analysis of the data and Microsoft word and Excel have been used to generate graphs, tables etc.

Results and Analysis

Out of 139 study subjects 61.9% were males and 38.1% were females (Table 1). Among the 139 patients included in the study, the minimum age of the study subjects was of 20 years and the maximum age being 85 years. Mean age of the study subjects was 53.74 years with a standard deviation of 14.08 years (Figure 1).Majority of the study subjects were diagnosed to have Carcinoma of Oesophagus (43.2%) followed by Normal reports (16.5)% and Gastritis (13.7%). The diagnosis of Laryngo-pharyngeal Reflux Disease (LPRD), Duodenal Ulcer and Barret's Oesophagus was found to be least i.e. accounting for 0.7% each (Figure2).45.3% of the study subjects were diagnosed to have malignant disease while 38.1% were having benign conditions (Table 2). Higher age showed greater probability of developing malignant diseases than lower age group of subjects. The association was found to be statistically significant (p= 0.0045) (Table 3 and Figure 3). Male subjects having higher probability of developing malignant diseases than female subjects ("p"=0.002) (Table 4 and Figure 4).

Table 1 Distribution of subjects according to gender (n=139)

Gender	Frequency	Percentage
Male	86	61.9
Female	53	38.1
Total	139	100.0

**Figure 1:** Histogram showing distribution of age of study subjects (n=139)
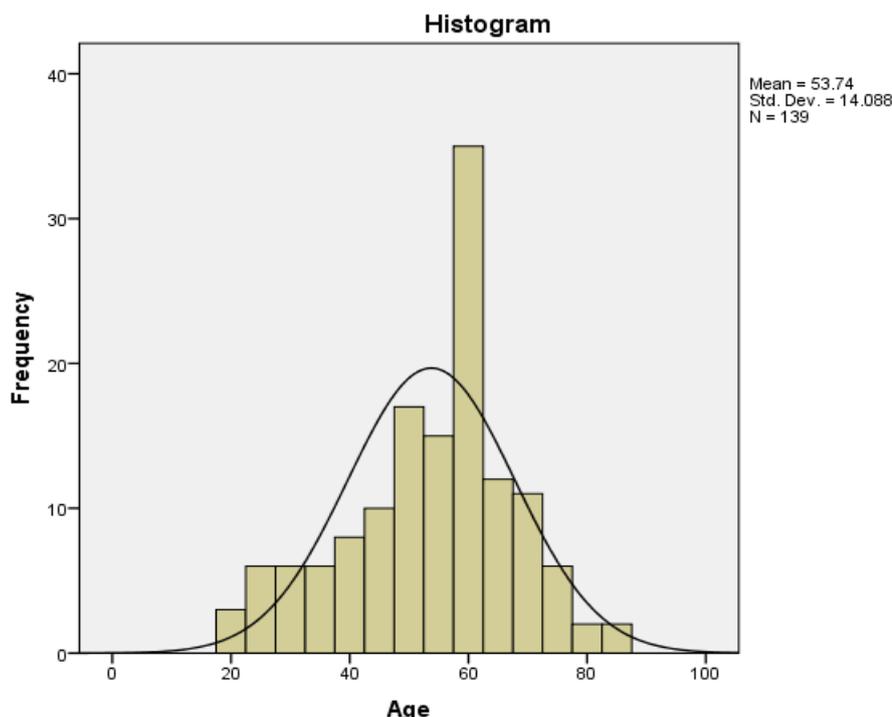
Figure 2: Simple bar diagram showing distribution of subjects according to type of disease (n=139)
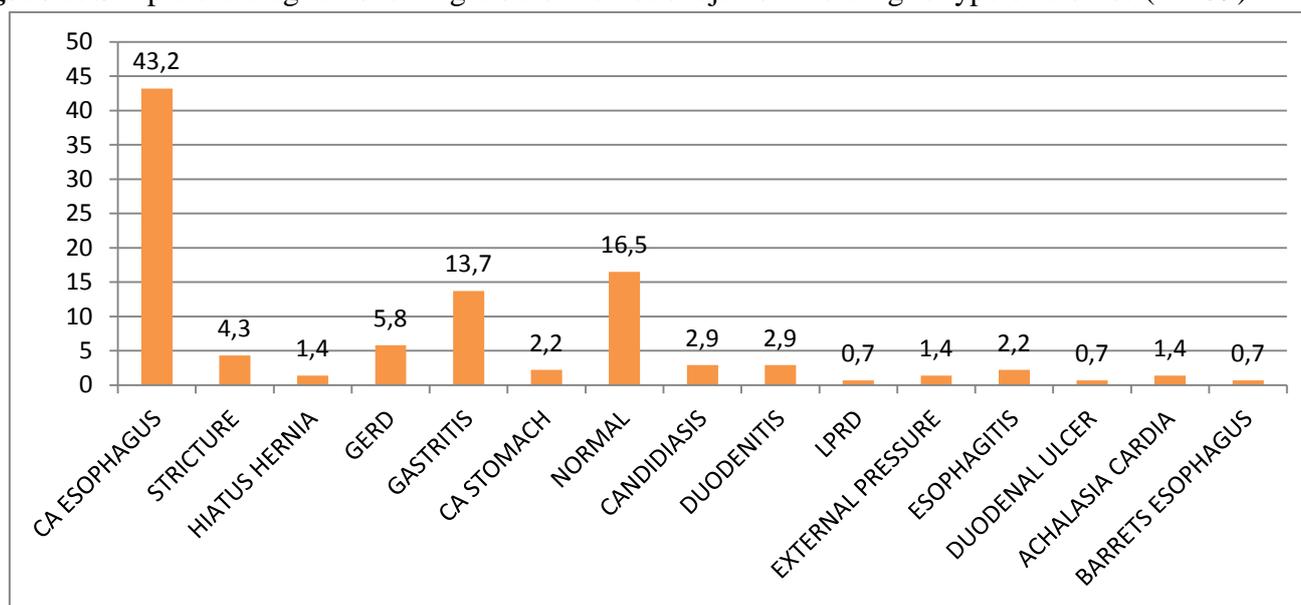

Table 2 Distribution of subjects according to category of morbidities (n=139)

Disease Type	Frequency	Percentage
Malignant	63	45.3
Benign	53	38.1
Normal	23	16.5
Total	139	100.0

Table 3 Association between age and type of morbidity (n=139)

		Disease Category			
		Malignant	Benign	Normal	Total
Age Category	Higher age	45	27	8	80
	Lower age	18	26	15	59
Total		63	53	23	139

Figure 3: Component bar diagram showing association between age and type of morbidity (n=139)
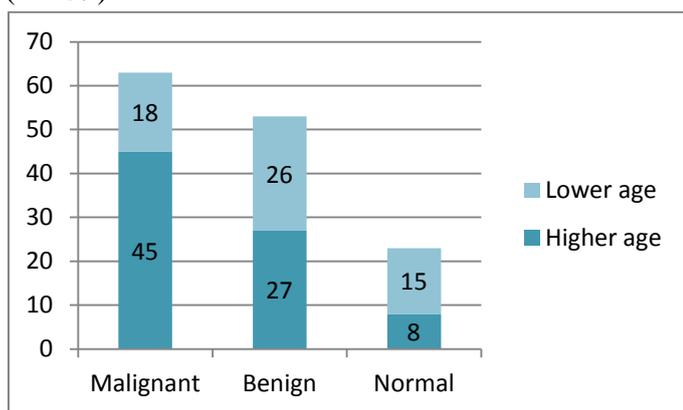
Table 4 Association between gender and type of morbidity (n=139)

		Disease Category			
		Malignant	**Benign**	**Normal**	**Total**
Sex	**male**	46	33	7	86
	female	17	20	16	53
Total		63	53	23	139

Figure 4: Multiple bar diagram showing association between gender and type of morbidity (n=139)
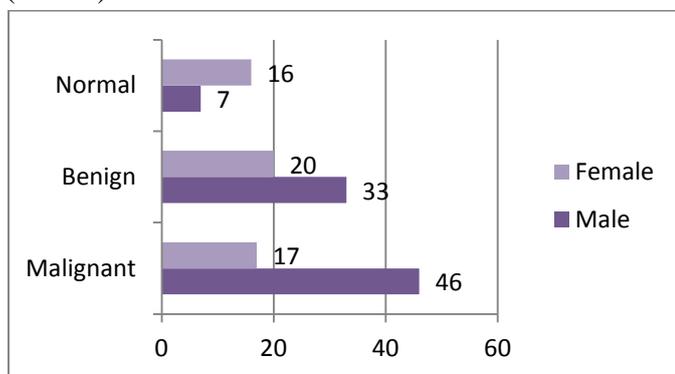
Discussion

In our present study we have attempted to find out the different morbidity pattern of upper GI Tract and to establish a link between higher age and increased probability of developing malignant diseases of upper GI Tract. Also we have tried to find an association between sex and the probability of occurrence of malignancy. A study of 50 cases undergoing EGD scopy by Barros P, Bussaleu A[5] showed following results: Normal 30%, Duodenitis 18% and other lesions like ulcer and gastritis in rest two percent patients. Results from Ray S et al. in evaluation of Upper GI endoscopy showed duodenal ulcer 12%, gastritis 26%, Ca stomach 8%, gastric ulcer 4%, reflux esophagitis 6%, normal 16%[6]. The current study shows normal report in 16.5%, reflux esophagitis in 5.8% which is very similar to the findings of the above study while duodenal ulcer 0.7%, gastritis in 13.7% did not correspond to the result of the above study. The results may be due dissimilar composition of the study populations and study area. We have found a significant association between higher age and increased probability of development of malignancy.The current study also revealed the association of male gender with higher probability of development of malignancy of upper GI Tract.

Conclusions and Limitations

The results of our study indicate that there is a significant association of higher age group and the increased probability of development of malignancy of the upper GI Tract, mainly Carcinoma Esophagus. The study also concluded the positive association of male gender and malignant conditions of the upper GI Tract. Our study had few limitations due to small sample size and lack of confirmatory tests for some conditions. The study finally recommends that, older male subjects presenting with dyspepsia or upper GI symptoms may undergo early endoscopy to rule out malignancy.

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