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Correlation of endoscopic findings with clinical diagnosis in patients with upper abdominal pain

[1]Dr Avinash M.S.N.V, General Surgery, Sri Devaraj Urs Medical College, Kolar, Karnataka, India.

[2]Dr Prakash Dave, General Surgery, Sri Devaraj Urs Medical College, Kolar, Karnataka, India.

Corresponding Author: Dr Avinash M.S.N.V, General Surgery, Sri Devaraj Urs Medical College, Kolar, Karnataka, India.

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Abstract

Abdominal pain is a frequent presentation to general practice. Evaluation of patient with upper abdominal pain requires a thorough understanding of the anatomy and physiology of upper gastrointestinal system and adjacent organ systems, and an understanding of diseases that may present with upper abdominal pain. A systematic approach to the evaluation of abdominal pain is essential for the appropriate care of patients. Upper gastrointestinal tract disorders are one of the most common disorders encountered in surgical OPD causing Upper GI Pain. The common symptoms being dysphagia, dyspepsia, pain abdomen, retrosternal burning sensation, vomiting, hematemesis etc[1].Dyspepsia usually is an earlier manifestation of several gastrointestinal disorders such as peptic ulcer, gastric and esophageal carcinomas, GERD, H. pylori[2]. Endoscopy can help diagnosing the cause of dyspepsia. Acute upper gastrointestinal bleed causes include peptic ulcers, Mallory Weiss syndrome, upper gastrointestinal malignancies[3,4]. Endoscopy has got a very big role in diagnosing the condition and the cause for bleed. Endoscopy guided biopsies have been used as a diagnostic tool for obtaining tissue diagnosis in suspected malignancies[5].

Patients with peptic ulcers (gastric and duodenal ulcer) present with complaints of pain abdomen, dyspepsia, retrosternal burning sensation[6]. Since peptic ulcer perforations are more prevalent in Kolar, early intervention by endoscopy can prevent further complications of peptic ulcer. The modes of presentation of these above disorders have been changing over the period of time because of the influence of various factors such as life-style modifications, food habits, easy availability of over-the-counter drugs. Hence, early detection by endoscopy prevents the further progress of diseases[7].

Keywords: Upper abdominal pain, Clinical diagnosis, Endoscopy.

Introduction

Abdominal pain is a frequent presentation to general practice. Evaluation of the patient with upper abdominal pain requires a thorough understanding of the anatomy and physiology of upper gastrointestinal system and adjacent organ systems, and an understanding of diseases that may present with upper abdominal pain. A systematic approach to the evaluation of abdominal pain is essential for the appropriate care of patients. Upper gastrointestinal tract disorders are one of the most

common disorders encountered in surgical OPD causing Upper GI Pain. The common symptoms being dysphagia, dyspepsia, pain abdomen, retrosternal burning sensation, vomiting, hematemesis etc[1]. Dyspepsia usually is an earlier manifestation of several gastrointestinal disorders such as peptic ulcer, gastric and esophageal carcinomas, GERD, H. pylori[2]. Endoscopy can help diagnosing the cause of dyspepsia. Acute upper gastrointestinal bleed causes include peptic ulcers, Mallory Weiss syndrome, upper gastrointestinal malignancies[3,4]. Endoscopy has got a very big role in diagnosing the condition and the cause for bleed. Endoscopy guided biopsies have been used as a diagnostic tool for obtaining tissue diagnosis in suspected malignancies[5] Since peptic ulcer perforations are more prevalent in Kolar, early intervention by endoscopy can prevent further complications of peptic ulcer. The modes of presentation of these above disorders have been changing over the period of time because of the influence of various factors such as life-style modifications, food habits, easy availability of over-the-counter drugs. Hence, early detection by endoscopy prevents the further progress of diseases[7]. The present study is intended in Correlation of Clinical Diagnosis with Upper GI Endoscopic findings, which will help in early detection and diagnosis of various upper gastrointestinal disorders before complications set in.

Aim and Objectives

Aim: To study the Correlation of endoscopic findings with clinical diagnosis in patients with upper abdominal pain

Objectives

- To determine the proportion of the various symptoms and signs of patients with Upper Gastro Intestinal pain.
- To determine the proportion of the Esophago-gastro-duodenoscopic findings of patients with Upper Gastrointestinal pain
- To correlate the clinical diagnosis with the endoscopic findings and to arrive at a definitive diagnosis.

Material and Methods

Source of Data: This study was conducted in the Department of General Surgery, R.L. Jalappa Hospital, SDUMC, Kolar.

Study Population: Patients presenting with upper abdominal pain in the surgical outpatient Department of General Surgery, R.L. Jalappa Hospital, SDUMC, Kolar.

Inclusion Criteria: All patients above the age of 18years in whom upper GI endoscopy was advised.

Exclusion Criteria

- Patients who underwent upper GI Endoscopy within previous 6months.
- Sick and moribund patients
- Immunocompromised patients

Duration of study: December 2019 through June 2021

Study Design: Cross sectional study

Sampling Technique: Purposive sampling method.

Sample size: Sample size was estimated based on Correlation of clinical diagnosis with Upper GI Endoscopic findings with a Sensitivity of 94.5% using the formula.

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$$\text{Sample size} = \frac{Z_{1-\alpha/2}^{\ 2}\, p(1-p)}{d^2}$$

Here

$Z_{1-\alpha/2}$ = Is standard normal variate (at 5% type 1 error ($P<0.05$) it is 1.96 and at 1% type 1 error ($P<0.01$) it is 2.58). As in majority of studies P values are considered significant below 0.05 hence 1.96 is used in formula.
p = Expected proportion in population based on previous studies or pilot studies.
d = Absolute error or precision – Has to be decided by researcher.

P=40

q=60

d=12

Using the above values at 99.99% confidence level a sample size of 253 subjects with gastrointestinal symptoms were included in the study.

Ethical consideration

1. Approval from Institutional Ethics committee was obtained prior to the start of the study
2. Informed consent was obtained from all the patients recruited prior to the start of the study
3. Standard of Care was provided to all the patients during the study period and follow-up

Method of Data Collection: Data was collected using structured questionnaire consisting of Demographic profile, Clinical profile, investigations profile. After history and thorough clinical examination, all subjects were subjected to Upper GI endoscopy. All standards procedures were followed up in conduct of Upper GI endoscopy. Complete Blood counts, ECG, HIV and HbsAg tests were carried out prior to endoscopy and USG abdomen and pelvis was performed when diagnosis was inconclusive.

Statistical analysis[35,36,37]: Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software. Categorical data was represented in the form of Frequencies and proportions. **Chi-square test** was used as test of significance for qualitative data. Continuous data was represented as mean and standard deviation. **Graphical representation of data:** MS Excel and MS Word were used to obtain various types of graphs such as bar diagram, Pie diagram. **p value** (Probability that the result is true) of <0.05 was considered as statistically significant after taking into consideration all the rules of statistical tests. **Statistical software:** MS Excel**,** SPSS version 22 **(**IBM SPSS Statistics, Somers NY, USA) was used to analyze data.

Results

Table 1: Age distribution

		Count (n)	%
Age	18 to 30 years	38	15.0%
	31 to 45 years	72	28.5%
	46 to 60 years	82	32.4%
	61 to 75 years	55	21.7%
	>75 years	6	2.4%
	Total	253	100.0%

In the study subjects in the age group 46 to 60 years comprised 32.4%, followed by age group of 31 to 45 years (28.5%).

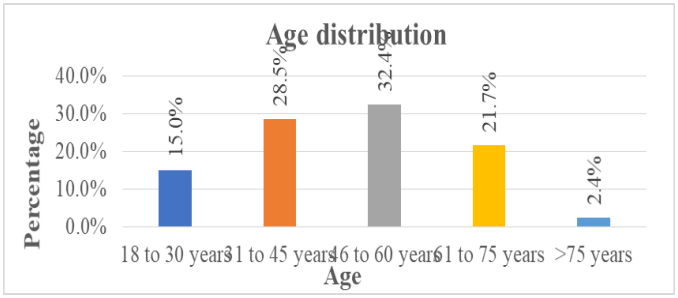

Figure 1: Age Distribution

Table 2: Gender distribution

		Count (n)	%
Gender	Female	118	46.6%
	Male	135	53.4%
	Total	253	100.0%

In the study 46.6% were females and 53.4% were males.

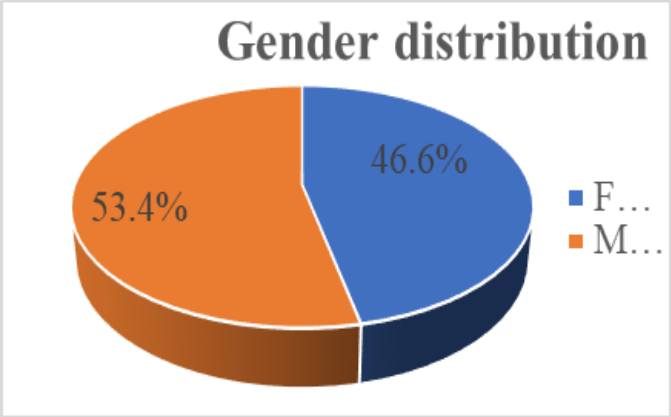

Figure 2: Pie diagram showing Gender distribution

Table 3: Clinical Diagnosis distribution

		Count (n)	%
Clinical Diagnosis	Acute gastritis	117	46.2%
	Acid peptic disease	71	28.1%
	Bleeding gastric ulcer	2	0.8%
	Carcinoma cricoid	1	0.4%
	Carcinoma oesophagus	9	3.6%
	Carcinoma stomach	7	2.8%
	Gastric ulcer	1	0.4%
	GERD (Gastroesophageal Reflux disease)	37	14.6%
	GOO (Gastric outlet obstruction)	1	0.4%
	Hiatus hernia	3	1.2%
	Ingestion of corrosive agent	1	0.4%
	Portal hypertension	3	1.2%

Most common clinical diagnosis was acute gastritis (46.2%), APD in 28.1% and others as shown in the above table.

Table 4: PPI drugs use distribution among patients

		Count(n)	%
PPI (Proton pump inhibitors)	No	109	43.1%
	Yes	144	56.9%

In the study 56.9% of patients were on PPI drugs.

Table 5: Incidence of diabetes mellitus among patients studied

		Count(n)	%
Diabetes	No	180	71.1%
	Yes	73	28.9%

In the study 28.9% were diabetic.

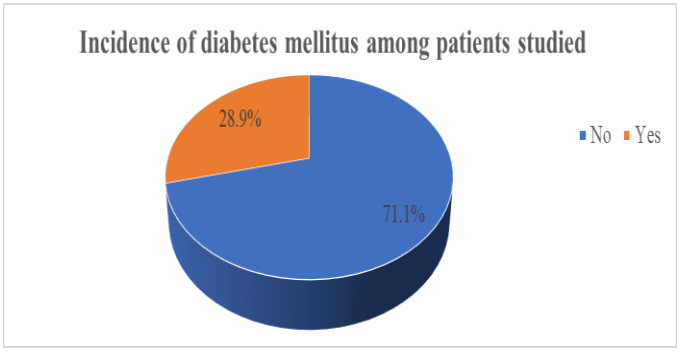

Figure 3

Table 6: Incidence of Hypertension among patients studied

		Count(n)	%
Hypertension	No	163	64.4%
	Yes	90	35.6%

In the study 35.6% were Hypertensive.

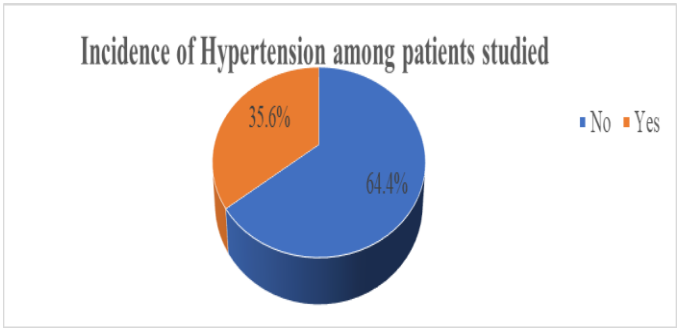

Figure 4: Pie diagram showing Hypertension distribution

Table 7: Patients who underwent Upper GI Endoscopic biopsy

		Count(n)	%
Biopsy taken	No	199	78.7%
	Yes	54	21.3%

In the study 21.3% underwent biopsy on Upper GI endoscopy.

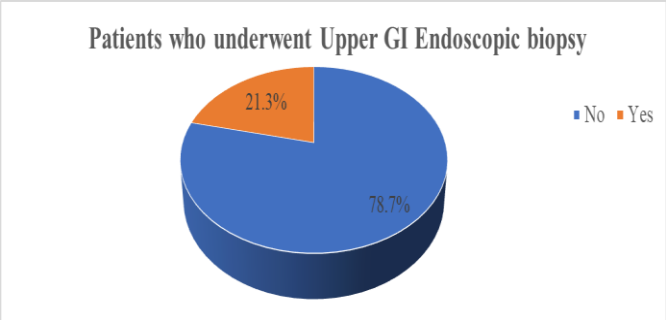

Figure 5: Pie diagram showing Biopsy distribution

Table 8: Endoscopy Findings on UGI endoscopy

		Count (n)	%
Endoscopy Findings	Acute gastritis	37	14.6%
	Atrophic gastritis	1	0.4%
	Biliary gastritis	20	7.9%
	Carcinoma oesophagus	12	4.8%
	Carcinoma stomach	13	5.2%
	Corrosive oesophageal stricture	1	0.4%
	Cricoid growth	1	0.4%
	Diffuse gastritis	16	6.3%
	Diffuse mucosal growth in the body	1	0.4%
	Duodenal Growth	2	0.8%
	Duodenitis	4	1.6%
	Erosive gastritis	2	0.8%
	Esophageal candidiasis	4	1.6%
	Esophageal motility disorder.	1	0.4%
	Esophageal Varices	3	1.2%
	Fundal gastritis	7	2.8%
	Gastric outlet obstruction	1	0.4%
	Antral Gastritis	25	9.9%
	GERD	15	5.9%
	Hiatus hernia	3	1.2%
	Lax lower oesophageal sphincter	10	4.0%
	Multiple submucosal swellings in antrum and D2	1	0.4%
	Multiple ulcers in mid oesophagus	1	0.4%
	Nodular gastritis	1	0.4%
	Nodular mucosa noted in the pharynx	1	0.4%
	Normal study	46	18.2%
	Oesophageal stricture	2	0.8%
	Oesophagitis	5	2.0%
	Portal hypertensive gastropathy	2	0.8%
	Post GJ status	2	0.8%
	Proliferative growth at the OG junction	1	0.4%
	Proliferative growth in the lesser curvature.	1	0.4%
	Pyloric growth with GOO	1	0.4%
	Pyloric stenosis	4	1.6%
	Reflux esophagitis	4	1.6%
	Scarring and oedematous mucosa in the OG junction	1	0.4%
	Ulceroproliferative Growth Noted from The D2	1	0.4%
	Total	253	100.0%

Most common endoscopy findings was Acute gastritis (14.6%) and others as shown in table above.

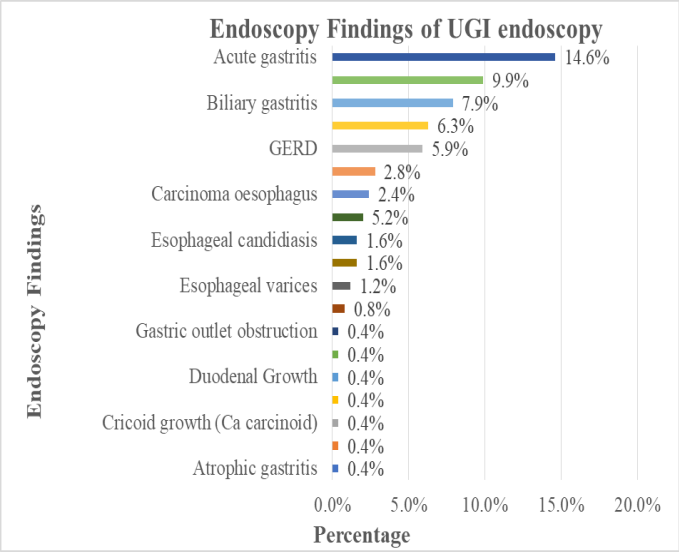

Figure 6: Bar diagram showing Endoscopy Findings on UGI endoscopy

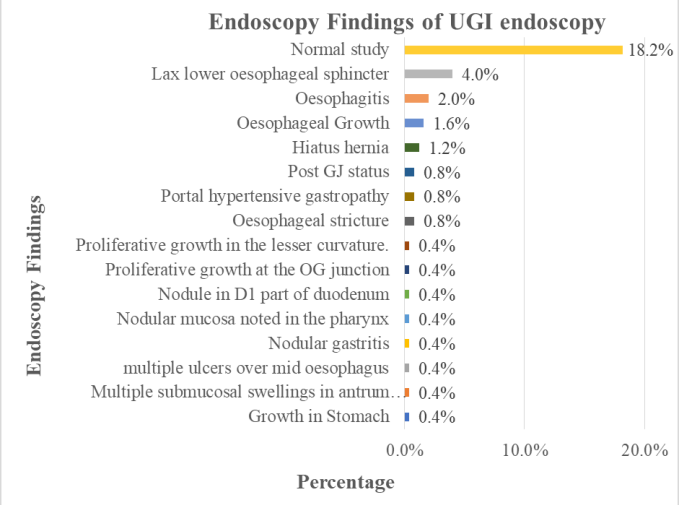

Figure 7: Bar diagram showing Endoscopy Findings on UGI

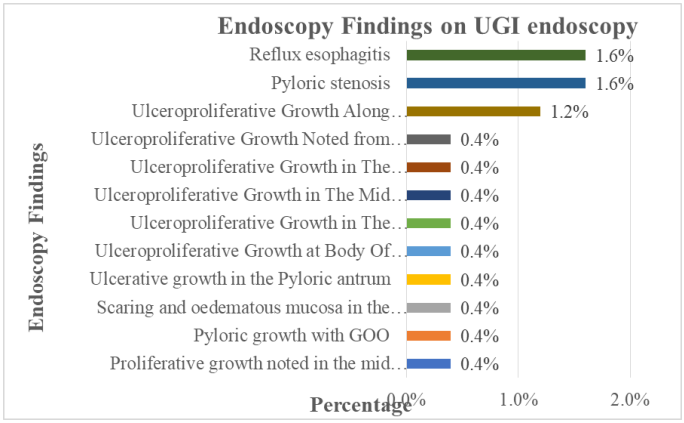

Figure 8: Bar diagram showing Endoscopy Findings on UGI endoscopy

Table 9: Upper GI endoscopy Findings among subjects with clinically diagnosed APD

		Count(n)	%
Endoscopy findings	Acute gastritis	1	1.4%
	Carcinoma oesophagus	4	5.6%
	Carcinoma stomach	3	4.2%
	Diffuse gastritis	1	1.4%
	Duodenitis	2	2.8%
	Esophageal candidiasis	3	4.2%
	Gastric outlet obstruction	1	1.4%
	Growth in Stomach	1	1.4%
	Lax lower oesophageal sphincter	2	2.8%
	Multiple submucosal swellings in antrum and D2	1	1.4%
	Nodular mucosa noted in the pharynx	1	1.4%
	Nodule in D1 part of duodenum	1	1.4%
	Normal study	39	54.9%
	Oesophageal stricture	1	1.4%
	Oesophagitis	2	2.8%

	Pyloric stenosis	2	2.8%
	ulceroproliferative growth along lesser curvature	3	4.2%
	ulceroproliferative growth at body of stomach.	1	1.4%
	Ulceroproliferative growth in the antrum.	1	1.4%
	Ulceroproliferative growth noted from the D2	1	1.4%
	Total	71	100.0%
a. Clinical Diagnosis = APD			

Among the subjects with clinically diagnosed APD, Normal study was found in 54.9% (n=39), 5.6% (n=4) had Carcinoma oesophagus, 4.2% (n=3) had Carcinoma stomach.

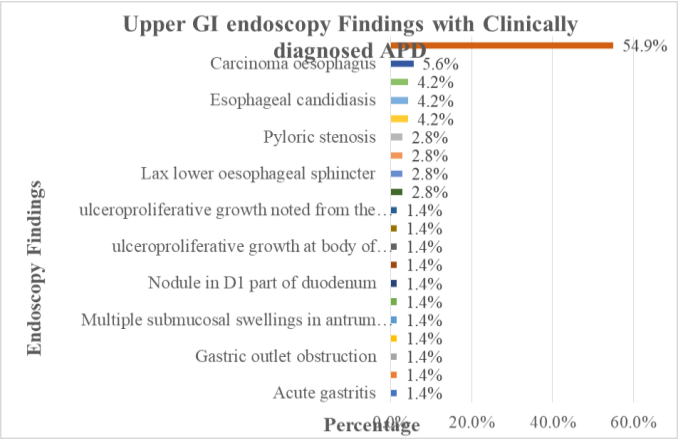

Figure 9

Table 10: Upper GI endoscopy Findings among subjects with clinically diagnosed Carcinoma oesophagus

		Count(n)	%
Endoscopy Findings	Carcinoma oesophagus	1	11.1%
	GERD	1	11.1%
	Oesophageal Growth	4	44.4%
	Proliferative growth noted in the mid oesophagus.	1	11.1%
	Scarring and oedematous mucosa at the GE junction	1	11.1%
	ulceroproliferative growth in the mid oesophagus	1	11.1%
	Total	9	100.0%

Among the subjects with Clinically diagnosed Carcinoma oesophagus, endoscopy showed Oesophageal Growth in 44.4%(n=4), 11.1%(n=1) showed Carcinoma oesophagus, GERD, Proliferative growth in the mid oesophagus, Scarring and oedematous mucosa at the GE junction and ulcer proliferative growth in the mid oesophagus each.

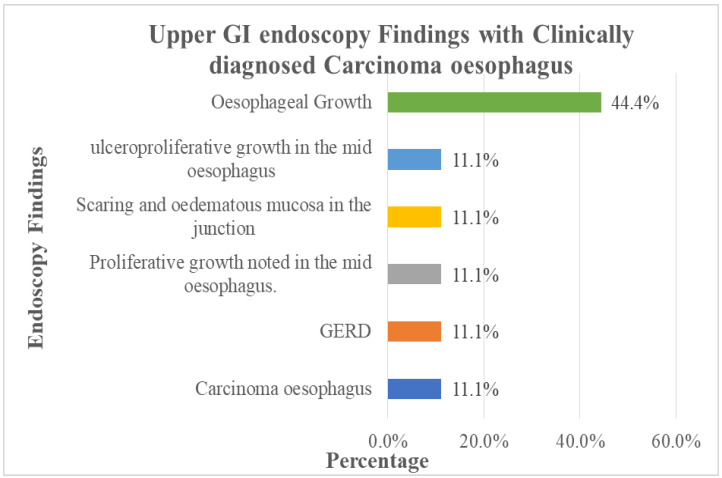

Figure 10: Bar diagram showing Upper GI endoscopy Findings among subjects with clinically diagnosed Carcinoma oesophagus.

Table 11: Upper GI endoscopy Findings among subjects with clinically diagnosed Carcinoma stomach

		Count(n)	%
Upper GI Endoscopy Findings	Carcinoma stomach	2	28.6%
	Diffuse mucosal growth in the body	1	14.3%

	Gastritis	1	14.3%
	Proliferative growth in the lesser curvature.	1	14.3%
	Pyloric growth with GOO	1	14.3%
	Ulceroproliferative growth in the pylorus	1	14.3%
	Total	7	100.0%

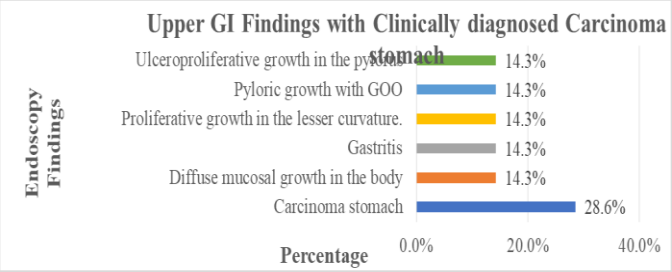

Figure 11: Bar diagram showing Upper GI endoscopy Findings among subjects with clinically diagnosed Carcinoma stomach

Table 12: Upper GI endoscopy Findings among subjects with clinically diagnosed GERD

		Count(n)	%
Endoscopy Findings	Acute gastritis	2	5.4%
	Carcinoma oesophagus	1	2.7%
	Esophageal motility disorder.	1	2.7%
	Fundal gastritis	1	2.7%
	Gastritis	2	5.4%
	GERD	14	37.8%
	Lax lower oesophageal sphincter	5	13.5%
	Normal study	2	5.4%
	Proliferative growth at the OG junction	1	2.7%
	Pyloric stenosis	1	2.7%
	Reflux esophagitis	4	10.8%
	Total	37	100.0%

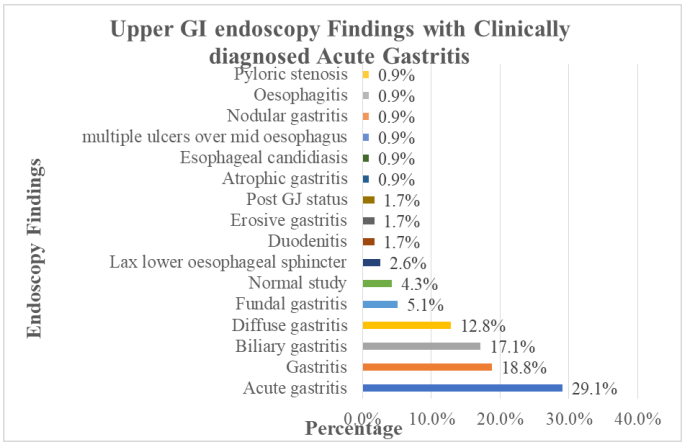

Figure 13: Bar diagram showing Upper GI endoscopy Findings among subjects with clinically diagnosed Acute Gastritis

Table 13: Sites of Gastritis among subjects with gastritis on Endoscopy

		Count	Column N
Endoscopy Findings	Acute Gastritis (diffuse)	2	1.8%
	Antral Gastritis	35	32.1%
	Atrophic Gastritis (diffuse)	1	0.9%
	Biliary Gastritis (distal)	19	17.4%
	Diffuse Gastritis	16	14.7%
	Erosive Gastritis (diffuse)	2	1.8%
	Fundal Gastritis	6	5.5%
	Gastritis	10	9.2%
	Nodular Gastritis	1	0.9%
	Severe Biliary Gastritis	1	0.9%

	Severe Diffuse Gastritis	1	0.9%
	Severe Erosive Gastritis	1	0.9%
	Severe Fundal Gastritis	1	0.9%
	Severe Gastritis	12	11.0%
	Severe Haemorrhagic Gastritis (diffuse)	1	0.9%

Among the subjects with Gastritis, most common location on endoscopy was Antrum 32.1 %(n=35).

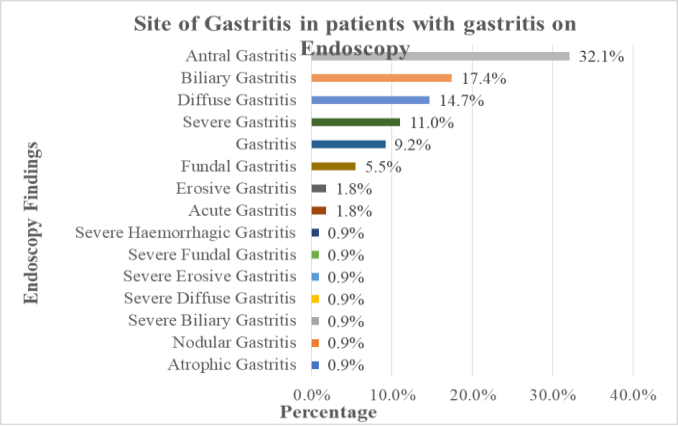

Figure 14: Bar diagram showing sites of Gastritis among subjects with gastritis on Endoscopy

Table 14: Site of Growth in Carcinoma of Stomach

		Count	Column N
Endoscopy Findings	Carcinoma Stomach Post Chemo Status	2	28.6%
	Diffuse Mucosal Growth in The Body	1	14.3%
	Proliferative Growth in The Lesser Curvature.	1	14.3%
	Pyloric Growth With GOO	1	14.3%
	Severe Haemorrhagic Gastric growth	1	14.3%
	Ulceroproliferative Growth in The Pylorus with no Gastric outlet obstruction	1	14.3%

a. Clinical Diagnosis = Carcinoma stomach

In the study among subjects with Carcinoma stomach, most common endoscopy findings were Carcinoma Stomach Post Chemo Status (28.6%).

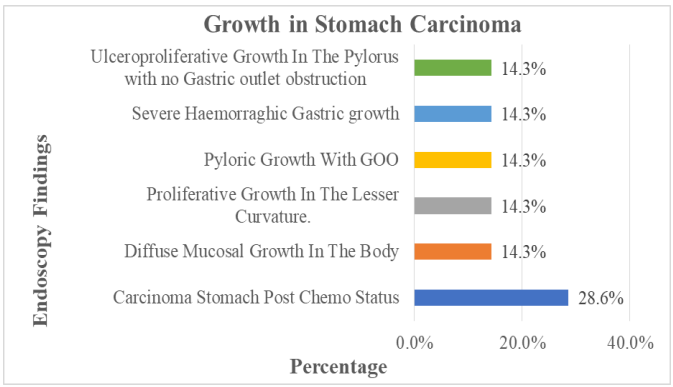

Figure 15: Bar diagram showing Growth in Stomach Carcinoma

Table 15: Association between Age and Gastritis

		Gastritis based on UGI			
		Yes		No	
		Count	%	Count	%
Age	18 to 30 years	22	57.9%	16	42.1%
	31 to 45 years	31	43.1%	41	56.9%
	46 to 60 years	36	43.9%	46	56.1%
	61 to 75 years	18	32.7%	37	67.3%
	>75 years	2	33.3%	4	66.7%

$\chi 2 = 6.06$, df =4, p = 0.195

In the study among subjects in the age group 18 to 30 years, 57.9% had Gastritis, among subjects in the age group 31 to 45 years, 43.1% had Gastritis, among subjects in the age group 46 to 60 years, 32.7% had Gastritis, among subjects in the age group 61 to 75 years, 32.7% had gastritis and among subjects in the age group

>75 years, 33.3% had gastritis. There was no significant difference in gastritis with respect to age.

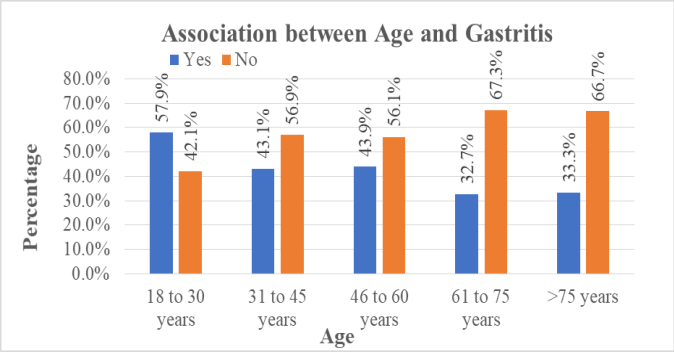

Figure 16

Table 16: Association between Age and Gastritis

		Gastritis based on UGI			
		Yes		No	
		Count	%	Count	%
Age	18 to 30 years	22	57.9%	16	42.1%
	31 to 45 years	31	43.1%	41	56.9%
	46 to 60 years	36	43.9%	46	56.1%
	61 to 75 years	18	32.7%	37	67.3%
	>75 years	2	33.3%	4	66.7%

$\chi 2 = 6.06$, df $= 4$, $p = 0.195$

In the study among subjects in the age group 18 to 30 years, 57.9% had Gastritis, among subjects in the age group 31 to 45 years, 43.1% had Gastritis, among subjects in the age group 46 to 60 years, 32.7% had Gastritis, among subjects in the age group 61 to 75 years, 32.7% had gastritis and among subjects in the age group >75 years, 33.3% had gastritis. There was no significant difference in gastritis with respect to age.

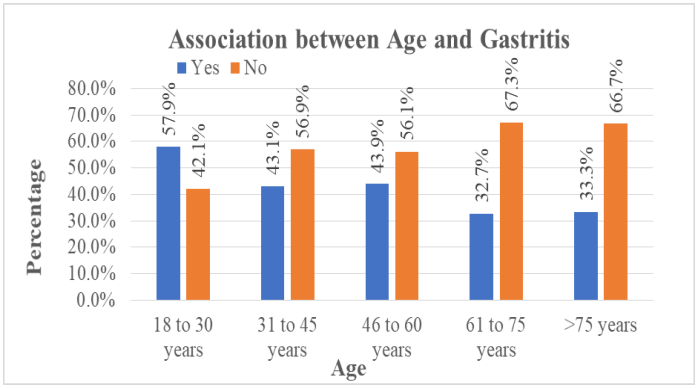

Figure 17: Bar diagram showing Association between Age and Gastritis

Table 17: Association between Gender and Gastritis

		Gastritis based on UGI			
		Yes		No	
		Count	%	Count	%
Gender	Female	51	43.2%	67	56.8%
	Male	58	43.0%	77	57.0%

$\chi 2 = 0.002$, df $= 1$, $p = 0.967$

In the study among females, 43.2% had Gastritis and among males, 43% had gastritis. There was no significant difference in Gastritis with respect to Gender.

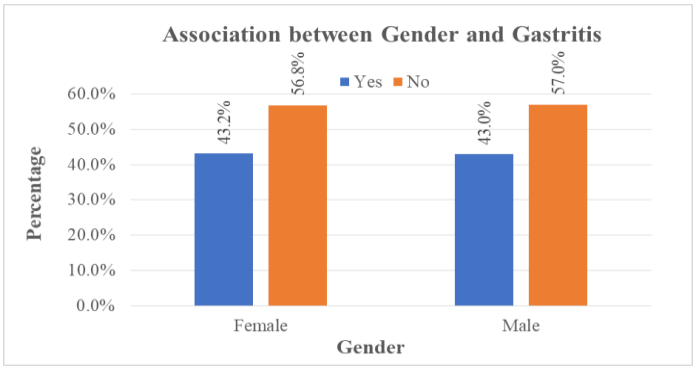

Figure 18: Bar diagram showing Association between Gender and Gastritis

Table 18: Association between PPI Drug and Gastritis

		Gastritis based on UGI			
		Yes		No	
		Count	%	Count	%
PPI Drug	No	49	45.0%	60	55.0%
	Yes	60	41.7%	84	58.3%

$\chi 2 = 0.273$, df =1, p = 0.601

In the study among subjects who were on PPI, 41.7% had gastritis and among subjects who were not on PPI, 45% had gastritis. There was no significant difference in Gastritis with respect to PPI.

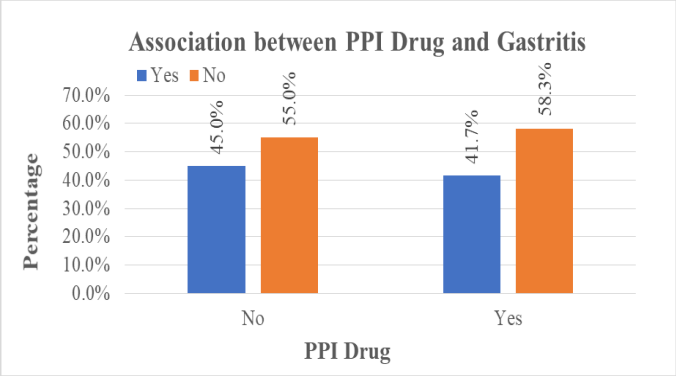

Figure 19

Table 19: Association between Comorbidities and Gastritis

		Gastritis based on UGI				P value
		Yes		No		
		Count (n)	%	Count (n)	%	
Diabetes	No	77	42.8%	103	57.2%	0.878
	Yes	32	43.8%	41	56.2%	
Hypertension	No	73	44.8%	90	55.2%	0.462
	Yes	36	40.0%	54	60.0%	

In the study among subjects with DM, 43.8% had Gastritis and among subjects without DM, 42.8% had Gastritis. There was no significant association between Diabetes and Gastritis. In the study among subjects with HTN, 40.0% had Gastritis and among subjects without HTN, 44.8% had Gastritis. There was no significant association between HTN and Gastritis.

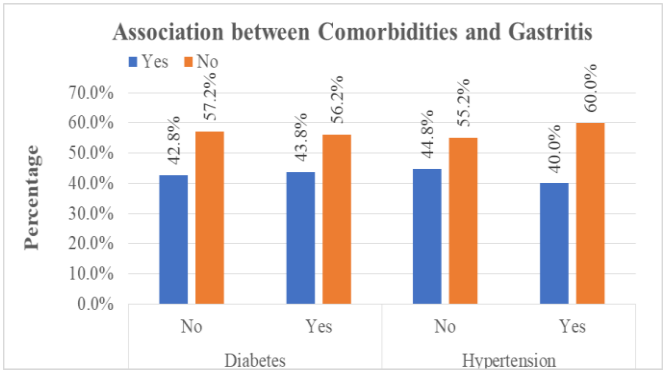

Figure 20: Bar diagram showing Association between Comorbidities and Gastritis

Discussion

A Cross sectional study was carried out among 253 Patients presenting with Upper abdominal pain and undergoing upper GI endoscopy at Department of General Surgery, R.L. Jalappa Hospital, SDUMC, Kolar for a period of one and half years [December 2019-June 2021].

General Profile: Majority of subjects were in the age group 46 to 60 years (32.4%). 28.9% had diabetes. 53.4% were males, 46.6% were females. 56.9% were on PPI. 35.6% had HTN.

Clinical Diagnosis: Most common clinical diagnosis was Acute gastritis (46.2%), APD in 28.1%, GERD (14.6%), Carcinoma oesophagus (3.6%) and others.

Endoscopy Findings: Most common endoscopy findings were Acute gastritis (14.6%)., 9.9% had Gastritis, Diffuse gastritis (6.3%). 21.3% underwent Biopsy.

Comparison of Clinical diagnosis and Upper GI endoscopy findings

- Among subjects with clinically diagnosed APD most common endoscopy was Normal(54.9%).
- Among subjects with Clinically diagnosed Carcinoma oesophagus, on endoscopy showed Oesophageal Growth (44.4%).

- Among subjects with Clinically diagnosed Carcinoma stomach, most common Endoscopy finding was Carcinoma stomach (28.6%).
- Among subjects with clinically diagnosed GERD, most common Endoscopy Findings was GERD (37.8%).
- Among subjects with clinically Acute Gastritis, most common endoscopy findings were Acute gastritis (29.1%).
- Among subjects with Gastritis, most common location on endoscopy was Antral Gastritis (32.1%).

Factors associated with Gastritis: In the study among subjects in the age group 18 to 30 years, 57.9% had Gastritis, among subjects in the age group 31 to 45 years, 43.1% had Gastritis, among subjects in the age group 46 to 60 years, 32.7% had Gastritis, among subjects in the age group 61 to 75 years, 32.7% had gastritis and among subjects in the age group >75 years, 33.3% had gastritis. In the study among females, 43.2% had Gastritis and among males, 43% had gastritis. In the study among subjects who were on PPI, 41.7% had gastritis and among subjects who were not on PPI, 45% had gastritis. In the study among subjects with DM, 43.8% had Gastritis and among subjects without DM, 42.8% had Gastritis. In the study among subjects with HTN, 40.0% had Gastritis and among subjects without HTN, 44.8% had Gastritis. There was no significant difference in gastritis with respect to age, gender, PPI and Diabetes, HTN & Gastritis.

Age Distribution: Majority of patients were in age group of 25 – 55 years. Mean age in present study subjects being 46.45 years. In studies conducted by several authors, mean age was as follows.

Table 20: Age distribution comparison

Sn.	Name of the study	Mean age (in years)
1	Thomson.A.B.R et al.,[38]	45.9
2	Ziauddin[38]	42.2± 15.7
3	Choomsri.p et al.,[40]	41
4	Present study	46.45

Above studies also had similar observations in term of mean age in patients with Upper abdominal pain.

Gender distribution: In present study 53.4% found to be male patients, 46.6% found to be female patients. Male to female ratio in studies conducted by **Khan.N et al.,**[41], **Ziauddin**[38], **Mustapha.SK et al.,**[42] was 2.3:1, 1.6:1, 1.1:1 respectively. Majority of patients being male with ratio of 2.7:1 in these studies as well.

Most common Upper GI endoscopic findings in various studies: In present study most common endoscopic finding being Gastritis 108/253 which is 42.7% of the study population, and clinically was Acute gastritis (46.2%) followed by GERD 5.9%, Lax lower oesophageal sphincter 4%. Most common malignancy being Carcinoma of esophagus (2.6%).

Table 21: Endoscopic findings comparison in various studies:

Sn.	Name of study	Gastritis
1	Sarwar et al.,[43]	13%
2	Ziauddin[38]	18%
3	Present study	42.7%

In our study incidence of gastritis was more. It may have been because of increase in the intake of alcohol, NSAID, consumption of tobacco compared to other studies.

Incidence of gastric malignancy: In this study there were five patients with carcinoma of stomach accounting

for 2% (n=5), Six with carcinoma of esophagus accounting for 2.4% (n=6) and esophageal growth 1.6% (n=4). Incidences of gastric malignancies observed by various authors are as follows:

Table 22: comparison of incidence of gastric malignancies.

Sn.	Name of study	Percentage of gastric malignancy
1	Choomsri p et al[33]	1%
2	Khan N et al[35]	3%
3	Ziauddin[32]	4%
4	Present study	2%

GI endoscopic findings compared with Nowshad khan et al., study[44]:

Table 23: Endoscopic findings comparison

Sn.	Findings in Endoscopy	Nowshad Khan et al.,[44]	Present study
1	Normal	26%	18.2%
2	Esophagitis	6 (12%)	2%
3	Gastritis	4 (8%)	42.7%
4	GERD	2 (4%)	5.9%
5	Gastric ulcer	5 (10%)	-
6	Duodenal ulcer	4(8%)	-
7	Duodenitis	2(4%)	1.6%

In present study, more than one finding was seen in 15 cases. Most common finding among them being gastritis for 42.7% of the study population, next being GERD (5.9%), grade 1 esophagitis 2%, Duodenitis 1.6%. Most common malignancy was Carcinoma of esophagus.. Abnormal findings being esophagitis in 6(12%) subjects, gastric ulcer in 5 (10%) subjects, duodenal ulcer in 4 (8%) subjects, gastritis in 4 (8%) subjects, and duodenitis in 2 (4%) subjects, combination of lesions found in 1 (2%) subject, carcinoma of stomach was present in 1(2%) subject. Incidence of normal endoscopy was in consistence with Nowshad khan study.

Endoscopic findings of UGI system compared with Mohd Mubarik et al study:

A similar study conducted in SKIMS Medical college Hospital, Bemina, Srinagar by Mohd Mubarik et al.[42], was to evaluate patients having dyspepsia by Endoscopy showed following results

Table 24: Endoscopic findings comparison

Sn.	Findings in Endoscopy	Md. Mubarik[42]	Present study
1	Gastritis	26(28.26%)	42.7%
2	Esophagitis	2(2.17%)	2%
3	Duodenitis	6(6.52%)	1.6%
4	Duodenal ulcer	34(36.95%)	-
5	Gastric ulcer	6(6.25%)	-
6	Ca esophagus	2(2.17%)	2.4%
7	Ca stomach	-	2.0%

Similar Observations were also made in the studies by Adeniyi OF et al.[45], Dr. P. V. Buddha et al.[46], and Patel KS et al.[47], wherein the most common Upper GI endoscopic findings was Acute Gastritis. Hence from the studies in literature it is clearly evident that UGI endoscopy findings will help in differentiating lesions and help in evaluating Upper Abdominal pain.

Conclusions

Upper Abdominal pain is common symptom of upper gastro-intestinal system. UGI endoscopy is helpful diagnostic tool to identify specific condition in patients having Upper Abdominal pain. Upper Abdominal pain was more common in male subjects as compared to female. More common in age group of 25-50 yrs.

Endoscopic findings with pathology were seen in most patients with Upper Abdominal pain, and common abnormal endoscopic pathologies included Gastritis, esophagitis & Duodenitis. Upper Abdominal pain & dyspepsia with red flag symptoms increases possibility of malignancy. Whereas in Abdominal pain and dyspepsia without red flag symptoms there seem to be reduced risk at malignancy. UGI endoscopy hence is useful diagnostic modality in identification and evaluation of causes of Upper Abdominal pain.

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