



## AN UPPER GASTROINTESTINAL ENDOSCOPIC FINDINGS IN PATIENTS PRESENTING WITH DYSPEPSIA IN GOVERNMENT THENI MEDICAL COLLEGE AND HOSPITAL – A PROSPECTIVE STUDY

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### ABSTRACT

**Introduction:** Gastrointestinal disorders mainly dyspepsia are more common problem in primary care world wide prevalence ranges from 14.5 to 45.0 % worldwide. This study was conducted in Government Theni Medical College for a period of one year. In the study upper gastrointestinal scopy was for all patients of dyspepsia in our institution.

**Aim:** To evaluate patients of dyspepsia with upper GI endoscopy and to study the age and sex prevalence of patients presenting with dyspepsia and to detect esophagogastrroduodenal carcinoma at the earlier stage

**Methods:** Upper Gastrointestinal scopy was done for all patients presenting with dyspepsia in Government Theni Medical College during the period from april 2019 to march 2020

**Results:** In this study we found that function dyspepsia is more common in females when compared to males. 23.97% patients have multiple pathologies. Increased incidence of gastrointestinal malignancies in more than 40 years of age in this study shows the importance of early endoscopy in old age.

### KEYWORDS :

#### INTRODUCTION

Gastrointestinal disorders especially dyspepsias are common problems in primary care worldwide and lead to medical visits. Prevalence of dyspepsias in the range of 14.5%-45% worldwide. Over 30% of population are affected by dyspepsia at sometime in their life. Dyspepsias cause huge economic costs to patients and to economy.

Dyspepsia defined as pain/discomfort in upper abdomen, is a common symptom with an extensive differential diagnosis and heterogenous pathophysiology.

Dyspepsia is a common condition involving upper abdomen with chronic and recurrent symptoms including epigastric pain, discomfort, upper abdominal distension, nausea, early satiety, heart burn, regurgitation and anorexia.

The symptoms of dyspepsia could be occurred due to important structural pathology such as chronic peptic ulcer disease, gastroesophageal reflux, malignancy or it can also present as functional dyspepsia (without evidence of organic cause)

ROME III guidelines states that dyspepsia is non reflux predominant pain or discomfort in th upper abdomen and the patients must also have one or more of the following four symptoms : postprandial fullness, early satiation, epigastralgia and epigastric burning. Symptoms onset must have occurred atleast six months prior to diagnosis

#### Functional/non-ulcer Dyspepsia :

An International Committee recently revised the dyspepsia and diagnostic criteria for non-ulcer/functional dyspepsia that bothersome postprandial fullness, early satiation, epigastric pain, and epigastric burning without evidence of structural disease to explain symptoms.

GERD has been defined as the condition that develops when the reflux of stomach contents causes troublesome symptoms and /or complications. Heartburn is the most common symptom of GERD and tissue injury results when esophageal epithelial cells succumb to the damaging effect of refluxed gastric acid and pepsin.

#### AIMS AND OBJECTIVES

1. To evaluate the upper gastro intestinal endoscopic findings in patients presenting with dyspepsia
2. To detect esophago gastroduodenal carcinoma at an earlier stage
3. To study the age and sex prevalence in patients presenting with dyspepsia.

#### Review Of Literature

Upper gastrointestinal endoscopy had its beginning in 1881 when Karl

Stoerk, an Austrian Laryngologist, examined the entire length of the oesophagus with a rigid tube. After step by step modifications made in the upper gastrointestinal endoscopy over the decades , by 1970 a endoscope was developed that permitted complete inspection of the oesophagus, stomach and duodenum, incorporated with channels for air insufflation, lens washing and introduction of biopsy forceps or cytology brushes. There are many studies conducted about upper gastrointestinal findings in dyspeptic patients in worldwide. They explained dyspepsia will have different causative factors in different persons. The reasons for a particular person in same group developing dyspepsia are probably complex and comprise genetic, environmental and psychological factors.

according to choomseri et al study conducted in 2010 Dyspeptic patients had a low prevalence of important endoscopic lesions. Empirical antacid therapy was recommended as the initial screening therapeutic test prior to endoscopic evaluation for most patients. (7) Sahin et al study conducted in 2014 Prevalence of gastritis was 48.4%. gastric ulcers in 7%, and only 1% was diagnosed to have gastric cancer. (3)

Based on Azzam et al. study conducted in 2015, the most common abnormal endoscopy findings included Gastritis (52%) and malignancy rate were about 2.6%. (3)

Ghamar-Chehreh ME, Shahverdi E, Khedmat H, et al. in 2016 evaluated 400 patients with dyspepsia found Gastritis was the most common findings with a prevalence rate of 45%. Prevalence of normal endoscopy was 35%. prevalence of esophageal and gastric malignancies included esophageal adenocarcinoma, gastric adenocarcinoma and gastric lymphoma 2.5%, 5% and 2.5% respectively. (3)

In 2018, Padma s et al study from Endoscopy data base records of 2198 patients in trichy shows Positive yield was 94%, Male, female distribution was 61.78% and 38.21%. Among the benign lesions, lesions of stomach constituted 52.3%, oesophageal lesions 24.6%, duodenal lesions 7.8%. Of the benign lesion, gastritis constitutes the 44.9%, varices 8.9%, and lax LES with oesophagitis 8.1% were the leading findings in endoscopic diagnosis. Malignancy distribution was stomach 1%, malignancy oesophagus 2.1%. (8)

According to babu antony et al gastric malignancy is significantly higher in age >40 years. This recommends a routine upper GI endoscopy for patients >40 years. Esophageal growth is significantly higher in females (9)

Here ,Our prospective study was done to know the pattern of upper GI tract diseases by upper GI endoscopy in Govt.Theni Medical College and Hospital and compare this study with other studies from other regions.

**METHODOLOGY**

A prospective observational study entitled “An Upper gastrointestinal endoscopic findings in patients presenting with dyspepsia in GTMCH ” was undertaken in government theni medical college during the period from april 2019 to march 2020.

After getting approval from local institutional ethical committee and obtaining consents from dyspeptic patients,this study was carried out from 150 patients After filling the proforma by eliciting the clinical features from both outpatients and inpatients with dyspepsia ,Endoscopic evaluation was proceeded if the criterias fulfilled.

**Inclusion Criteria**

1. Patients above 13 years of age.
2. Patients showing symptoms of dyspepsia.
3. Patients who have consented for the study.

**Exclusion Criteria**

1. Patients below 13 years of age.
2. Moribund and ill patients
3. Pregnant and lactating women
4. Patients who has not consented for the study

**Endoscopic Procedure:**

Dyspeptic patients planned for endoscopic evaluation were asked to nil per oral for 12 hours prior to the procedure. Endoscopic evaluation done under local anaesthesia in our institute .

Preferred local anaesthetic agent was LIDOCAINE 10% SPRAY . Spray applied to oropharynx 5 – 10 minutes before the procedure .

The upper gastrointestinal endoscopy was conducted with pentax, flexible fibreoptic endoscope. Patients were put in left lateral recumbency to facilitate entrance into the pylorus and duodenum .Mouth gag was placed to facilitate passage of insertion tube and protect the endoscope from bites. Insertion tube was advanced under direct vision through the oropharynx directing dorsal to the laryngopharynx .

Once the cervical esophageal sphincter visualised,patient was asked to swallow to facilitation of entry into esophagus. Optimal insufflation was used to keep the lumen of esophageal wall well distended.A few deflection adjustments were used to traverse the length of the normal esophagus. Entire esophageal mucosa was visualised for inflammatory changes and growth.

The gastroesophageal junction was usually identified at 37- 40 centimeters from the incisors.Gastro esophageal junction was easily identified by the serrated Z line which is the boundary between the esophagus and gastric mucosa .

Esophageal hiatus in the diaphragm was identified by asking the patient to inhale deeply , the diaphragmatic hiatus during inspiration creates an imprint on the esophageal and gastric wall by identify the position of hiatus and gastro esophageal junction , hiatus hernia and barrett's esophagitis identified.

Typically LES is a closed, slit like opening eccentrically located .it opens in response to shot puffs of air.Lower esophageal sphincter should be observed for closed or widely patulous .

Then insertion tube advanced into stomach by aligning the tip with the center of LES.Scope gently advanced until the rugal folds are visualised . Rotation movements of tip allows examination of anterior and posterior wall of body of the stomach .Upward deflection provides the visualisation of body, antrum and cardia .

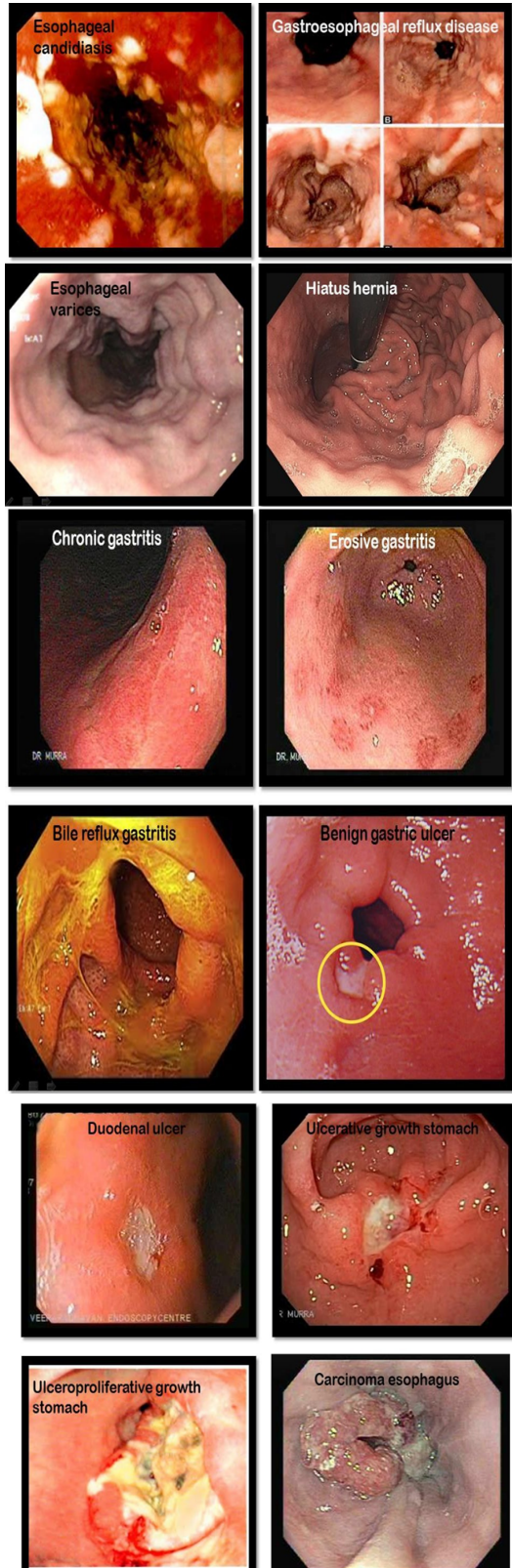
Further deflection in an upward direction also called Retroflexion or 'J' Maneuver allows visualisation of cardia .By rotating the wrist in a clockwise and counter clockwise fashion,A 360 degree view of fundus obtained.

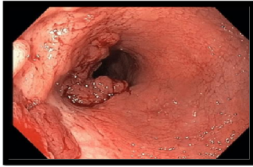
When the scope is in the retroflex position, withdraw the scope rather than advancing it, to bring the tip of the scope closer to fundus.

Stomach was looked for inflammatory changes,ulcers and growth.

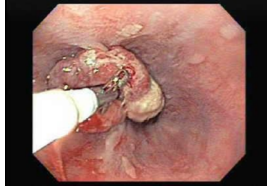
Maintained the pyloric orifice in the center of view ,slowly advanced the tip of insertion tube into pyloric orifice .Once the tip entered into proximal duodenum,upto second part of duodenum completely assessed for inflammatory changes,ulcers and growth .

Abnormally looking areas,ulcers and growths were biopsied by biopsy forceps . Specimens were put in 10% buffered neutral formalin and sent for histopathological examination.





Carcinoma OG J junction

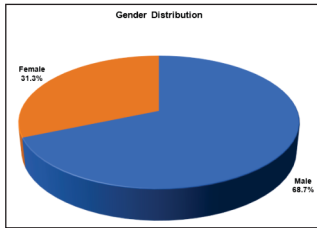


Endoscopic Biopsy

**RESULTS**

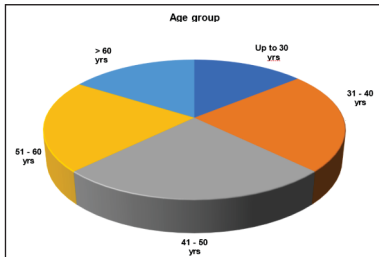
**Sex Distribution**

Gender	N	%
Male	103	68.7%
Female	47	31.3%
Total	150	100.0%



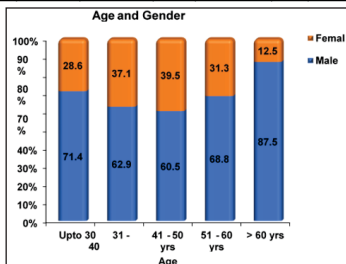
**Age And Sex Prevalence**

Age group	N	%
Up to 30 years	21	14.0%
31 - 40 years	35	23.3%
41 - 50 years	38	25.3%
51 - 60 years	32	21.3%
> 60 years	24	16.0%
Total	150	100.0%



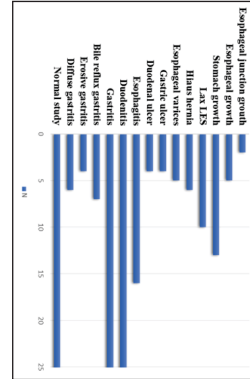
**Age And Sex Prevalence**

Age group	Gender						p-value
	Male		Female		Total		
	N	%	N	%	N	%	
Upto 30 yrs	15	71.4%	6	28.6%	21	100.0%	0.219
31 - 40 yrs	22	62.9%	13	37.1%	35	100.0%	
41 - 50 yrs	23	60.5%	15	39.5%	38	100.0%	
51 - 60 yrs	22	68.8%	10	31.3%	32	100.0%	
> 60 yrs	21	87.5%	3	12.5%	24	100.0%	
Total	103	68.7%	47	31.3%	150	100.0%	



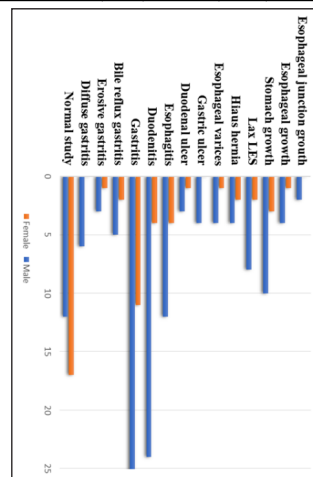
**Specific Endoscopic Findings In Patients With Dyspepsia**

OGD Findings	N	%
Normal study	29	19.3%
Diffuse gastritis	6	4.0%
Erosive gastritis	4	2.7%
Bile Reflux Gastritis	7	4.7%
Gastritis	42	28.0%
Duodenitis	28	18.7%
Esophagitis	16	10.7%
Duodenal ulcer	4	2.7%
Gastric ulcer	4	2.7%
Esophageal Varices	5	3.3%
Hiatus hernia	6	4.0%
Lax LES	10	6.7%
Stomach growth	13	8.7%
Esophageal growth	5	3.3%
Oesophagogastric junction growth	2	1.3%
Total	150	100.0%



**Gender Distribution In Endoscopic Findings**

OGD Findings	Gender					
	Male		Female		Total	
	N	%	N	%	N	%
Normal study	12	11.7%	17	36.2%	29	19.3%
Diffuse gastritis	6	5.8%	0	0.0%	6	4.0%
Erosive gastritis	3	2.9%	1	2.1%	4	2.7%
Bile Reflux Gastritis	5	4.9%	2	4.3%	7	4.7%
Gastritis	31	30.1%	11	23.4%	42	28.0%
Duodenitis	24	23.3%	4	8.5%	28	18.7%
Esophagitis	12	11.7%	4	8.5%	16	10.7%
Duodenal ulcer	3	2.9%	1	2.1%	4	2.7%
Gastric ulcer	4	3.9%	0	0.0%	4	2.7%
Esophageal Varices	4	3.9%	1	2.1%	5	3.3%
Hiatus hernia	4	3.9%	2	4.3%	6	4.0%
Lax LES	8	7.8%	2	4.3%	10	6.7%
Stomach growth	10	9.7%	3	6.4%	13	8.7%
Esophageal growth	4	3.9%	1	2.1%	5	3.3%
Oesophagogastric junction	2	1.9%	0	0.0%	2	1.3%
Total	103	100.0%	47	100.0%	150	100.0%

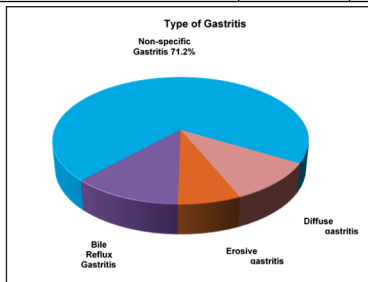


**Age Wise Distribution Of Endoscopic Findings**

OGD Findings	Age group										Total	
	Upto 30 yrs		31 - 40 yrs		41 - 50 yrs		51 - 60 yrs		> 60 yrs			
	N	%	N	%	N	%	N	%	N	%		
Normal study	5	23.8%	7	20.0%	8	21.1%	6	18.8%	3	12.5%	29	19.3%
Diffuse gastritis	2	9.5%	3	8.6%	0	0.0%	1	3.1%	0	0.0%	6	4.0%
Erosive gastritis	0	0.0%	2	5.7%	2	5.3%	0	0.0%	0	0.0%	4	2.7%
Bile Reflux Gastritis	2	9.5%	0	0.0%	2	5.3%	2	6.3%	1	4.2%	7	4.7%
Gastritis	8	38.1%	12	34.3%	8	21.1%	7	21.9%	7	29.2%	42	28.0%
Duodenitis	7	33.3%	6	17.1%	9	23.7%	4	12.5%	2	8.3%	28	18.7%
Esophagitis	2	9.5%	7	20.0%	3	7.9%	3	9.4%	1	4.2%	16	10.7%
Duodenal ulcer	0	0.0%	2	5.7%	0	0.0%	2	6.3%	0	0.0%	4	2.7%
Gastric ulcer	0	0.0%	0	0.0%	1	2.6%	3	9.4%	0	0.0%	4	2.7%
Esophageal Varices	0	0.0%	0	0.0%	3	7.9%	2	6.3%	0	0.0%	5	3.3%
Hiatus hernia	2	9.5%	1	2.9%	3	7.9%	0	0.0%	0	0.0%	6	4.0%
Lax LES	1	4.8%	2	5.7%	4	10.5%	2	6.3%	1	4.2%	10	6.7%
Stomach growth	0	0.0%	2	5.7%	1	2.6%	4	12.5%	6	25.0%	13	8.7%
Esophageal growth	0	0.0%	0	0.0%	1	2.6%	2	6.3%	2	8.3%	5	3.3%
Oesophagogastric junction growth	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	8.3%	2	1.3%
Total	21	100.0%	35	100.0%	38	100.0%	32	100.0%	24	100.0%	150	100.0%

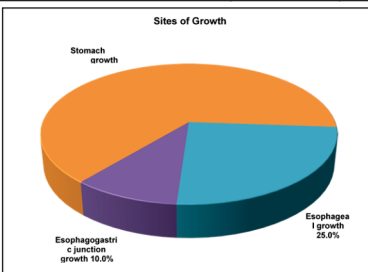
**Distribution Of Gastritis**

Type of Gastritis	N	%
Diffuse gastritis	6	10.2%
Erosive gastritis	4	6.8%
Bile Reflux Gastritis	7	11.9%
Non-specific Gastritis	42	71.2%
Total	59	100.0%



**Distribution Of Growth**

Growth	N	%
Stomach growth	13	65.0%
Esophageal growth	5	25.0%
Oesophagogastric junction growth	2	10.0%
Total	20	100.0%



**DISCUSSION**

Our study titled “An Upper Gastrointestinal Endoscopic Findings in patients presenting with Dyspepsia in GTMCH – A Prospective study” was conducted in Government theni medical college and hospital

during the period from April 2019 to March 2020 with the aiming of know the various upper gastrointestinal endoscopic findings in patients presenting with dyspepsia and early diagnosis of malignancies occurred in upper gastrointestinal tract . This was prospective study of 150 patients after getting proper consent.

**Clinical Presentation**

In the study of 150 patients, most common symptom was upper abdominal pain observed in 129 (86.0%) patients ,followed by nausea and vomiting in 95 (63.3%) patients. Other symptoms observed in decreasing order Regurgitation in 46 (30.7%) patients , loss of appetite and loss of weight in 38 ( 25.3) patients , upper abdominal distension in 20 ( 13.3%) patients.

79 (52.6%) patients are alcoholic, 45 (30.0 %) patients are smoker and 31 (20.6%) are tobacco chewer.

On examination of abdomen, Epigastric tenderness present in 76 (50.7%) patients, Normal in 68 (45.3%) patients, Visible Gastric Peristalsis observed in 6 (4%) patients

**Comparison**

Similar study was conducted by choomseri et al, in which common presenting symptom was epigastric pain and fullness in 58 % of patients, nausea and vomiting in 21 % of patients ,loss of weight in 13% of patients.

In Thomson A B R et al, in which the common presenting complaints were upper abdominal pain (34.3%), heart burn (24.5%) and acid regurgitation (13.3%).

**Positive Yield In Endoscopic Findings**

In this study ,significant endoscopic findings noted in 121 patients (positive yield: 80.67%). while 29 had normal study (19.3 %), functional dyspepsia. comparison with other studies below mentioned shows highest positive yield in present study

S.No	STUDY	POSITIVE YIELD	NORMAL STUDY
1.	Chellappa P, et al	34.9%	65.1%
2.	Khaliq M, et al	69.2%	30.8%
3.	Present study	80.67%	19.3 %,

Among the patients with significant endoscopic findings (n= 121 ,100%), most patients (n = 92, 76.03%) having a single endoscopic diagnosis. In others ,multiple pathologies were reported (n= 29, 23.97%), i.e, coexistent esophagitis, hiatus hernia, gastritis, gastric ulcer, duodenitis and duodenal ulcer in varying combinations.

**Significant Endoscopic Findings**

Gastritis was the most common finding noted in 59 (39.4%) Patients , followed by Duodenitis in 28 (18.7%) patients, Growth found in 20 (13.3%) patients, Esophagitis in 16 (10.7%) patients, Lax LES in 10 (6.67%) patients, Hiatus hernia in 6 (4%), Esophageal varices in 5 (3.33%) patients, Gastric ulcer in 4 (2.67%) and duodenal ulcer in 4 (2.67%) patients.

**COMPARISON**

Incidence of Gastritis, Duodenitis and Gastric ulcers are compared with other studies.

S. NO	NAME OF THE STUDY	GASTRITIS	DUODENITIS	GASTRIC ULCER
1.	Chellappa P, et al	10.3%	1.3%	1.1%
2.	Antony B, et al	51.1%	22 %	4.3%
3.	Khan Y, et al	25.1%	5.1%	6.7%
4.	Present study	39.4%	18.7%	2.67%

**Comparison Of Malignancies**

In present study, Growth was found in 20 ( 13.33%) patients. In which Majority of Growth present in stomach (n=13, 8.7%) followed by Esophagus (n=5 , 3.3%) and Esophagogastric junction (n=2, 1.3%).

S. No	Name of the study	Esophageal carcinoma	Carcinoma body of stomach and antrum
1.	Chellappa P et al	0.5%	0.8%
2.	Antony B, et al	0.7%	2.3%
3.	Khan Y, et al	3.7%	4.6%
4.	Present study	3.3%	8.7%

In the present study ,incidence of gastric malignancy was higher than other studies compared above

### Comparison Of Sex Distribution

In the present study 103 (68.7% ) were male patients and 47 (31.3%) were female patients ( Male to female ratio is 2.2:1 )

Gender distribution is compared to other studies .In Chellappa P et al had male female ratio of 1.6 : 1, Antony B et al had 1.6: 1 and Khan Y et al showed 1.8 : 1, Present study showed 2.2 : 1 which shows male predominance in our study with significant p value of 0.219

### CONCLUSION

Conclusion from the study of “An Upper Gastrointestinal Endoscopic Findings in patients presenting with Dyspepsia in GTMCH – A Prospective study”

Significant endoscopic findings was observed in 121 (80.67%) patients .functional dyspepsia is more common in females compared to males .

Gastritis (39.4%) was the most common endoscopic finding in dyspeptic patients as in other studies.

23.97% patients had a multiple pathologies i.e, coexistent esophagitis, hiatus hernia, gastritis, gastric ulcer, duodenitis and duodenal ulcer in varying combinations.

Increased incidence of upper gastrointestinal malignancies in more than 40 years of age in this study shows the importance of early diagnostic endoscopy in old age

### Summary

In our study, the following things were observed from prospective study of 150 patients presenting with dyspepsia

1. Most common age group involving in dyspepsia evaluation is 30 – 49 years .
2. Dyspepsia is more common in males (68.7% ) .
3. But functional dyspepsia is common in females
4. Most common endoscopic finding is gastritis (39.4%) followed by Duodenitis (18.7%)
5. Upper abdominal pain (86.0%) ,followed by nausea and vomiting (63.3% ) were the most common symptoms draw out the patient for endoscopic evaluation
6. Incidence of malignancy in our study was 13.3 %
7. Cancer risk increases exponentially with age
8. Stomach is the most common site in upper gastrointestinal tract involved in both benign and malignant condition

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