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Early Endoscopy Of Oesophagus, Stomach And Duo-Denal Bulb In Patients With Dyspepsia- A Single Insti-Tute Study

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Abstract

Background: Uninvestigated dyspepsia is common in surgical out patient department. The prevalence of clinically significant upper gastrointestinal findings in adult uninvestigated dyspepsia patients and their predictability based on history, is unknown. So a study was undertaken in SMIMER Hospital, Surat to study the endoscopic findings in dyspeptic patients, prevalence of *helicobacter pylori* infection in dyspeptic patients and to detect the esophagogastroduodenal carcinoma in early stages.

Methods: After informed consent 142 patients aged more than 13 years presenting with uninvestigated, untreated and uncomplicated dyspepsia were enrolled and evaluated in the study. Patients aged less than 13 years, pregnant and Lactating women, patients on chronic Proton pump inhibitors(>8weeks), patients who are known cases of chronic pancreatitis and liver disease, patients on NSAID's for more than one month duration, patients who had received Anti-*Helicobacter pylori* treatment and unwilling or unfit patients for endoscopy were excluded from the study. All patients underwent upper gastro-intestinal endoscopy to document the various findings. Biopsies were taken in every patient from the gastric antrum and pathological site. The biopsy specimen was subjected to histopathological examination for confirmation and to detect the prevalence of Helicobactor pylori infection by using rapid urease test and by Giemsa staining. The findings were documented and analysed. This study was approved by the institutional ethical committee for health reaserch, Smimer hospital, Surat.

Results: Highest prevalence of dyspepsia in the age group of 31-40years. Most common presenting complaint was epigastric pain and discomfort. Dyspepsia was more common in males (62%) when compared to females. Most common endoscopic finding was gastritis followed by GERD. *H.pylori* infection was present in 38.7% of study population. *H.pylori* infection was present in 69.2% patients with peptic ulcer disease. Malignancy was diagnosed in 4.2% patients with dyspepsia.

Conclusions: Clinically significant endoscopic findings were observed in 84.5% of patients with uninvestigated dyspepsia. Most patients presented with a complex of three or more dyspeptic symptoms and the symptom profile was not predictive of the endoscopic findings. A larger number of inflammatory lesions as a result of increased acid production, a remarkable prevalence of *H.Pylori* infection and low incidence of malignancy in the study group. It is suggested that the uninvestigated patients with dyspepsia may be initially managed medically with acid suppressive therapy or *H.Pylori* eradication in cases suspected to be infected endoscopy may be undertaken in patients with recurrent symptoms or in whom drug therapy fails.

Keywords: Early oesophago-gastro-duodenoscopy; Dyspepsia; H.pylori; GERD

Introduction

Dyspepsia (also called uninvestigated dyspepsia) had been defined by the Rome working teams as pain or discomfort centred in the upper abdomen. Pain in the central portion of the abdomen is a key symptom, pain located in other areas or related to defecation is excluded. Discomfort is considered to be distinct from pain; however, both often coexist and the distinction may in part be culturally driven. Discomfort has been defined as a subjective negative feeling that may include a variety of symptoms such as fullness in the upper abdomen, early satiety, bloating or nausea.1,2 The definition of dyspepsia includes patients who have intermittent or continuous symptoms and does not specify the duration of symptoms. Thus dyspepsia may be of short or long duration, but acute self-limited dyspepsia does not usually require investigation and will not be considered further here. The majority of patients who present with chronic dyspepsia have no obvious underlying explanation despite appropriate investigation; these cases are currently labelled as having non-ulcer (or functional) dyspepsia, although this is likely to be a heterogeneous condition.3 The pathophysiology of func-tional dyspepsia remains relatively poorly defined, but sensory and motor disorders of the stomach and duodenum ap-pear to play a central role in at least a subset of cases.4

Dyspepsia occurs in 40% of the population, leads to General practitioner consultation in 5% and referral for endosco-py in 1% of the population annually. In patients with signs or symptoms severe enough to merit endoscopy, 40% have functional or non-ulcer dyspepsia, 40% have gastro-esophageal reflux disease and 13% have some form of ulcer.10 Alarm features or red flags that may indicate serious underlying diseases are:11Age older than 55 years with new-onset dyspepsia, Family history of upper gastrointestinal cancer, Unintended weight loss, Gastrointestinal bleeding, Progres-sive dysphagia, Odynophagia, Unexplained iron-deficiency anemia, Persistent vomiting, Palpable mass or lymphade-nopathy, Jaundice.

Methods

A prospective clinical study was undertaken at SMIMER Hospital, Surat to know the various upper gastro-intestinal endoscopic findings in patients presenting with dyspepsia at SMIMER Hospital, Surat. The study was conducted over a period of 18 months (March 2018 to August 2019). The patient selection was by convenience sampling.

Dyspeptic patients were included in this study with their informed consent. A detailed clinically history was elucidat-ed, followed by careful clinical examination, which were recorded as per the proforma. All the patients included in the study underwent upper gastrointestinal endoscopy and the findings were noted. The inclusion and exclusion criterias were as follows: Inclusion criteria:

Patients above 13 years of age, Patients showing symptoms of dyspepsia for 4 or more than 4 weeks, Patients with un-complicated and uninvestigated dyspepsia, Patients fit for elective upper GI scopy, Patients willing for upper GI scopy; Exclusion criteria: Patients below 13 years of age, Pregnant and lactating women, High anaesthetic risk, Patients on chronic proto-pump inhibitors(>8weeks), Patients who are known cases of chronic pancreatitis and liver disease, Pa-tients on NSAID's for more than one month duration, Patients who have received Anti-Helicobacter pylori treatment, Unwilling or unfit patients for endoscopy. Collected data was compiled and entered in Microsoft excel sheets. Us-ing Epi Info statistical software, we analyzed the data for descriptive statistics using appropriate statistical tech-niques.

Results

Out of 142 patients, there were 88 (62%) male patients, 54 (38%) female patients, age ranging from 15 years to 80 years. The mean age of the patients in this study was found to be 42.6 years. All these patients presented to our hospital with symptoms of dyspepsia for 4 or more than 4 weeks. Upper GI endoscopy was done in all patients.

Normal study was observed in 22(15.5%) patients. Most common abnormal endoscopic finding was gastritis 41(28.9%) patients, followed by GERD in 26 (18.3%) of patients, esophagitis, hiatus hernia and duodenal ulcer, which were present in 8(5.6%) patients each. Duodenitis in 7 (4.9%) patients, esophagogastritis and gastric ulcer were seen in 5 (3.5%) patients each. Carcinoma stomach in 4 (2.8%) patients, gastroduodenitis in 3 (2.1%) patients, carcinoma esophagus in 2 (1.4%) patients were noted Esophageal polyp, esophagogastroduodenitis and

Volume 6, Issue 1; January-February 2023; Page No 246-253

Barrett's esophagus pre-sent in 1 (0.7%) patient each, were the least common findings.

Table 1: Frequency of various diseases on endoscopy in patients presenting with dyspepsia

	Endoscopic findings	**Male(%)**	**Female(%)**	**Total(%)**
1	Normal	14(9.9%)	8(5.6%)	22(15.5%)
2	Esophagitis	4(2.8%)	4(2.8%)	8(5.6%)
3	Esophageal polyp	-	1(0.7%)	1(0.7%)
4	Hiatus hernia	4(2.8%)	4(2.8%)	8(5.6%)
5	GERD	14(9.9%)	12(8.4%)	26(18.3)
6	Barrett's esophagus	1(0.7%)	-	1(0.7%)
7	Carcinoma esophagus	2(1.4%)	-	2(1.4%)
8	Gastritis	28(19.7%)	13(9.2%)	41(28.9%)
9	Gastric ulcer	3(2.1%)	2(1.4%)	5(3.5%)
10	Carcinoma stomach	3(2.1%)	1(0.7%)	4(2.8%)
11	Esophagogastritis	1(0.7%)	4(2.8%)	5(3.5%)
12	Duodenitis	4(2.8%)	3(2.1%)	7(4.9%)
13	Duodenal ulcer	6(4.2%)	2(1.4%)	8(5.6%)
14	Gastroduodenitis	3(2.1%)	-	3(2.1%)
15	Esophagogastroduodenitis	1(0.7%)	-	1(0.7%)
	Total	88(62%)	54(38%)	142(100%)

Volume 6, Issue 1; January-February 2023; Page No 246-253

TABLE 2: Frequency of various diseases on endoscopy in different age groups

Age Groups	Normal	H.H /GERD	InflamLesions	Ulcer Dyspepsia	Malig	Total	Percentage
13-20	4	4	3	-	-	11	7.70%
21-30	6	5	16	1	-	29	20.40%
31-40	5	15	19	-	-	38	26.80%
41-50	1	5	7	2	1	16	11.30%
51-60	2	1	13	7	1	24	16.90%
61-70	1	2	8	3	3	17	12%
71-80	3	2	1	-	1	7	4.90%
TOTAL	22	34	67	13	6	142	100%

In the present study, most of the patient, in the age group of 31-40 years (26.8%).

All patients were subdivided into different age groups. Most common clinically significant endoscopic findings were seen in age group between 21-40 years.

Hiatus hernia GERD were commonly seen in the age group between 31-40 years. Inflammatory lesions (gastritis, esophagitis, eso polyp, Barrett's esophagus, esophagogastritis, duodenitis, gastroduodenitis and esophagogastroduodenitis) were commonly seen in the age group between 21-40 years. Ulcer dyspepsia were commonly seen in the age group between 41-70 years. Malignant lesions were seen frequently in patients aged more than 50 years.

Analysis of various diseases on endoscopy showed that the most common pathology was inflammatory lesions seen in 67 (47.2%) of patients, of which 42 (47.7%) were male patients and 25 (46.3%) were female patients, followed by Hiatus hernia and GERD were next common abnormal findings, 34 (23.9%) in the decreasing order of the frequency of which 18 (20.5%) were males and 16 (29.6%) females. Ulcer dyspepsia was seen in 13 (9.2%) of which 9 (10.2%) males and 4 (7.4%) females. Malignancy was common in males 5 (5.7%) patients.

Out of 120 patients with clinically significant endoscopic findings, most common pathology was seen in stomach of 50 (41.7%), patients followed by esophagus 46 (38.3%) and duodenum 15 (12.5%).

Table 3: Frequency of various symptoms of dyspepsia in males and females

Sl.No.	Clinical presentation	Male	Female	Total	Percentage
1	Epigastric pain	67	45	112	78.90%
2	Heart burn	52	33	85	59.90%
3	Nausea/Vomiting	64	38	102	71.80%
4	Food intolerance	46	24	70	49.30%
5	Indigestion	44	21	65	45.80%
6	Loss of weight/appetite	30	17	47	33.10%

Volume 6, Issue 1; January-February 2023; Page No 246-253

Out of 142 patients, the most common component of dyspepsia was epigastric pain and discomfort, seen in 112 (78.9%) patients, followed by nausea and/or vomiting 102 (71.8%) patients, heart burn in 85 (59.9%) patients, food intolerance in 70 (49.3%) patients, indigestion in 65 (45.8%) patients and loss of appetite and/or weight in 47 (33.1%) patients.

Table 4: Prevalence of H.pylori in various clinical presentations

Sl.No.	Clinical presentation	Number of Cases	*H. pylori* positive	Percentage
1	Epigastric pain discomfort	112	41	36.60%
2	Heart burn	85	25	29.40%
3	Nausea/vomiting	102	42	41.20%
4	Food intolerance	70	26	37.10%
5	Indigestion	65	25	38.50%
6	Loss of weight/ appetite	47	30	63.80%

The most common clinical presentation in patients with H.pylori positivity on RUT was loss of weight and/or appetite (63%), nausea and/or vomiting (41.2%), followed by indigestion (38.5%), food intolerance (37.1%), epigastric pain, discomfort (36.6%) and heart burn (29.4%).

Table 5: Prevalence of H.pylori in dyspeptic patients

Sl No	Endoscopic findings	Total No	*H.pylori* positive	Percentage
1	Normal	22	5	22.70%
2	Esophagitis	8	2	25%
3	Esophageal polyp	1	-	-
4	Hiatus hernia	8	-	-
5	GERD	26	5	19.20%
6	Barrett's esophagus	1	-	-
7	Carcinoma esophagus	2	1	50%
8	Gastritis	41	22	53.60%
9	Gastric ulcer	5	3	60%
10	Carcinoma stomach	4	2	50%
11	Esophagogastritis	5	1	20%
12	Duodenitis	7	5	71.40%

Volume 6, Issue 1; January-February 2023; Page No 246-253

13	Duodenal ulcer	8	6	75%
14	Gastroduodenitis	3	2	66.70%
15	Esophagogastroduodenitis	1	1	100%
	TOTAL	142	55	38.70%

Out of 22 patients with normal endoscopic findings, 5 patients (22.7%) were positive for H.pylori positive on RUT.

The prevalence of H.pylori infection in dyspeptic patients was 38.7%. H.pylori prevalence in esophagogastro-duodenitis was 100%, duodenal ulcer 75%, duodenitis 71.4%, gastroduodenitis 66.7%, gastric ulcer 60%, gastritis 53.6%, esophageal and gastric carcinoma 50% each. Other abnormal endoscopic findings were less associated with prevalence of H.pylori infection.

Prevalence of H.pylori infection was highest in the age group of 51-60 years and least in the age group of 13-20 years.

Sl.NO	**NAME OF STUDY**	**GASTRITIS**	**GU**	**DU**	**CA STOMACH**
1	Mustapha SK et al. 41	89.10%	61.90%	100%	33.30%
2	Marshall et al. 43	54.20%	81.80%	100%	-
3	Wulfen V et al. 44	62.20%	72.20%	83.30%	-
4	Vaira et al. 45	57.60%	83%	92%	87%
5	Present study	53.60%	60%	75%	50%

Comparison Of Incidence Of Gastric Malignancies:

In this study there were 4 patients with carcimona stomach accounting for 2.8%, among them which 3 were male pa-tients. Gastric malignancies were common in older age groups. Incidence of gastric malignancies observed by various other studies as Choomsri P et al.5 (1%); Khan N et al.6 (3%); Ziauddin17(4%).

Discussion

A prospective clinico-pathological study entitled "A Clinical study of various findings in upper gastro-intestinal endoscopy in patients presenting with dyspepsia at SMIMER HOSPITAL, SURAT", was undertaken in simmer hospital to study the endoscopic findings of dyspepsia, prevalence of *H. pylori* infection in dyspeptic patients and to detect esophagogastroduodenal carcinoma at early stages. After informed consent 142 cases of dyspepsia were

Volume 6, Issue 1; January-February 2023; Page No 246-253

included in the study and were studied clinically as per the proforma over a period of one and half year from March 2018 to August 2019. All the patients underwent upper gastro- intestinal endoscopy and various findings were noted.

Clinical Presentation:

Out of 142 patients, 112 (78.9%) patients had epigastric pain and discomfort as their chief complaint where as nausea and vomiting was present in 102 (72.8%) patients. The other complaints were heart burn 85 (59.9%), food intolerance 70(49.3%), indigestion 65(45.8%) and loss of appetite and weight 47(33%).

Similar study was conducted by 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%),[9] the observations were comparable with that of the present study.

Comparison Of Age Distribution:

The majority of patients with dyspepsia were in the agegroup of 31-40 years (26.8%). The mean age in our study was 42.6 years. Other studies like Thomson A B R et al.[9] (45.6 years); Ziauddin[17](42.2+/-15.7years); Choomsri P et al.[5](41years) showing same results.

Comparison Of Gender Distribution:

In this study 62% were male patients, 38% were female patients. The incidence of different presentations of dyspepsia were common in males compared to females. Only the incidence of esophagogastritis was more in female patients. The male / female ratio in the studies conducted by Khan N et al – 2.3:1, Ziauddin- 1.6:1, Mustapha SK et al-1.1:1 respectively. In these studies also the majority of patients were males as observed in our study.[6,17,18]

In a population based study in Australia, female adults significantly out numbered males in most functional gastrointestinal disorders includes functional dyspepsia.[19]

Comparison Of Various Endoscopic Findings:

In the present study, clinically significant endoscopic findings were observed in 120 patients accounting for 84.5%. Gastritis was by far the most common finding (28.9%), while GERD was found in 18.3%. The next common findings were esophagitis, hiatus hernia and duodenal ulcer accounting for 8% each.

The percentage of cases with gastritis in this study was higher than that observed in studies by Sarwar et al.[16] (13%) and Ziauddin(18%). The percentage of patients with GERD was nearly equal to that observed by Sarwar et al(20%).

The prevalence of H. pylori is higher in this study compared to other studies - Choomsri P et al.[5] (23%); Thomson ABR et al.[9] (30%); it could be because majority of the patients enrolled in the study were from rural population and small number of patients evaluated, which may not represent the community as a whole.

In this study, it was observed that prevalence of H.pylori was common in patients with gastritis (22/41), followed by duodenal ulcer (6/8), duodenitis (5/7) and gastric ulcer (3/5). Studies conducted by various other authors also observed prevalence of H.pylori in different endoscopic findings as shown below.

Conclusion

From the present study of "A clinical study of various findings in upper gastro-intestinal endoscopy in patients presenting with dyspepsia at SMIMER HOSPITAL, SURAT".

On endoscopic examination gastritis and GERD together accounted for the majority of the cases. The prevalence of *H.pylori* in the study group was found to be 38.7% as estimated by rapid urease test. Incidence of malignancy in the present study was observed to be 4.2% (including both gastric and esophageal malignancies).

Clinically significant endoscopic findings were observed in 84.5% of patients with uninvestigated dyspepsia. Most patients presented with a complex of three or more dyspeptic symptoms and the symptom profile was not predictive of the endoscopic findings.

Prevalence of large number of inflammatory lesions as a result of increased acid production, a remarkable prevalence of *H.Pylori* infection and low incidence of malignancy in the study group suggests that the uninvestigated patients with dyspepsia may be initially managed medically with acid suppressive therapy or *H.pylori* eradication in cases suspected to be infected. Endoscopy may be undertaken in

Volume 6, Issue 1; January-February 2023; Page No 246-253

patients with recurrent symptoms or in whom drug therapy fails.

References

1. Talley NJ. Dyspepsia: how to manage and how to treat?. Aliment Pharmacol Ther. 2002;16 (4) :95-104.
2. Drossman DA, Corazziari E, Talley NJ et al. The functional gastrointestinal disorders. 2nd ed. In: Diagnosis, Pathophysiology and Treatment: a Multinational Consensus. Degon: McLean, Virginia;2000.
3. Westbrook JI, McIntosh JH, Talley NJ. The impact of dyspepsia definition on prevalence estimates: considerations for future researchers. Scand J Gastroenterol. 2000; 35:227–33.
4. Talley NJ, Holtmann G. New concepts in functional gastrointestinal diseases: functional dyspepsia and its link to other disorders. In: Textbook of Gastroenterol. Philadelphia, Lippincott Williams and Wilkins;2001.
5. Choomsri P et al. Upper gastrointestinal endoscopic findings in patients presenting with dyspepsia. Thai J Surg. 2010;31:7-12.
6. Khan N et al. Upper gastrointestinal endoscopic assessment of patients presenting with dyspepsia. JPMI. 2007;21(3):212-6.
7. Veldhuyzen VZ et al. The role of *Helicobacter pylori* infection in non-ulcer dyspepsia. Aliment Pharmacol Ther. 1997;11(1): 63-9.
8. Goh K L et al. The rapid urease test in the diagnosis of *Helicobacter pylori* infection. Singapore Med J. 1994;35: 161-2.
9. Thomson A B R et al. The prevalence of clinically significant endoscopic findings in primary care patients with uninvestigated dyspepsia: The Canadian Adult Dyspepsia Empiric Treatment- Prompt Endoscopy (CADET-PE) study. Aliment Pharmacol Ther. 2003; 17: 1481-91
10. Dyspepsia: Managing dyspepsia in adults in primary care, evidence based clinical practical guideline, 2004; North of England dyspepsia guideline development group, center for health services, Research report no. 112, University of New Castle, ISDN 0-9540161-7-3.
11. American Gastroenterology Association Technical Review on the Evaluation of Dyspepsia. Gastroenterol. 2005;129:1756-80.
12. Goh K L. "Update of management of Helicobacter pylori infection, including drug-resistant organisms." J Gastroenterol Hepatol. 2002 17(4): 482-487.
13. Borody T, Andrews P, Shortis N et al. "Optimal *Helicobacter pylori* therapy – A combination of Omeprazole and triple therapy (TT)."Centre for Digestive diseases, Sydney 2006, Australia.
14. Al Assi M T, Ramirez F, Lew G et al. "Clarithromycin, tetracycline and bismuth: a new non-metronidazole therapy for *Helicobacter pylori* infection." Am J Gastroenterol. 1994; 84: 1203-05.
15. Wink B, Williem D, Arjan J et al. "Effect of acid suppression on efficacy of treatment for *Helicobacter pylori* infection." Lancet. 1995; 345**:**817-20.
16. Sarwar M et al. Endoscopic assessment of Dyspepsia. Pak Armed Forces Med J. 2004;54: 48-50.
17. Ziauddin. Endoscopic findings in Dyspepsia a prospective study of 200 cases J Postgrad Med Inst. 2003;17 (2) :235-9.
18. Mustapha et al. Endoscopic findings and the frequency of Helicobacter pylori among dyspeptic patients in North Eastern Nigeria. The Internet Journal of Gastroenterology Issac (1528-8323). 2007; 6 (1).
19. Koloski NA et al. Epidemiology and health care seeking in the functional GI disorders; a population- based study. Am J Gastroenterol. 2002;97: 2290-9.

Volume 6, Issue 1; January-February 2023; Page No 246-253