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Evaluation of Dyspepsia with Upper Gastrointestinal Endoscopy - Single Centre Study from South India

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Abstract: ***Introduction: Dyspepsia is a nonspecific group of symptoms related to the upper gastrointestinal tract (1).Upper gastrointestinal symptoms are among the commonest complaints for which patients seek medical attention with annual prevalence of dyspepsia approximating 25% (2).Other cases are consequences of more serious organic diseases (3). Oesophagogastroduodenoscopy is widely available and relatively safe procedure (4).It is easily carried out procedure of high diagnostic value and therapeutic value too. Endoscopy holds an important place in the diagnosis of upper gastrointestinal conditions by enabling visualization, photography, recording the findings, ultrasonography and biopsy of suspicious lesion (5).Endoscopy gives better diagnostic yield over radiology particularly in the investigation of upper gastrointestinal bleeding, inflammatory conditions of upper gastrointestinal tract like esophagitis, gastritis and duodenitis (6).Endoscopy is cost effective and has very low incidence of morbidity and almost no mortality. Objective: To evaluate the findings of endoscopy in patients with dyspepsia and comparing with previous studies. Material and Methods: It is a retrospective study done in endoscopy unit at C.S.I Christian mission hospital, Madurai, Tamil Nadu, India. 461 patients with symptoms of dyspepsia in total of 814 patients who underwent endoscopy during period from Jan 2014 to Dec 2018, a span of five years were studied. Result: Out of 814 patients who underwent endoscopy, 461 (56.6%) patients had dyspepsia as indication for scopy. Many patients had more than one findings. Commonest finding was gastritis in 392 (85%) patients. Next common finding in 194 (42%) patients was duodenitis followed by oesophagitis in 78 (17%) patients, gastric ulcer and duodenal ulcer occurred in equal proportion of 52 (11%) patients each. Other findings include gastric growth in 11 (2.3%) patients; evidence of portal hypertension in 16 (3.4%) patients. 16 (3.4%) patients had normal study. Conclusion: Endoscopy is the diagnostic procedure of choice in the evaluation of upper gastrointestinal symptoms and remains the "gold standard". By evaluating all cases of dyspepsia by scopy, the early definitive diagnosis in all of them may be made and serious pathology like malignancy may not be missed at earlier stage thus reducing morbidity and mortality.***

Keywords: Upper gastrointestinal endoscopy, dyspepsia, findings, South India

1. Introduction

Of all the symptoms of upper gastrointestinal tract, dyspepsia is the commonest symptom in general population. The prevalence of dyspepsia in the general population is as high as 40% (7).Dyspepsia is defined as a constellation of symptoms that include upper abdominal pain or discomfort, which is intermittent or constant and may be associated with additional symptoms of nausea and vomiting (8).Apart from dyspepsia, patient might have alarming features suggestive of serious diseases such as cancer with symptoms like weight loss, odynophagia, vomiting, upper GI bleeding, jaundice, adenopathy, family history of gastrointestinal malignancy (9).Other symptoms of upper gastrointestinal tract includes bleeding presenting as haemetemesis, malena, dysphagia, weight loss, hiccough, anemia, belching, heartburn, recurrent aspiration, loss of appetite etc.

Endoscopic evaluation of upper gastrointestinal tract remains the gold standard for establishing or excluding peptic ulcer disease and other specific organic disease or upper gastrointestinal pathologies. Endoscopy is the procedure of choice for the diagnostic evaluation of the UGI tract because of its ease, reliability, diagnostic superiority and ability it gives the endoscopist to perform biopsies and/or therapeutic interventions (10).

2. Materials and Methods

It is a retrospective study done in endoscopy unit at C.S.I Christian mission hospital, Madurai, Tamil Nadu, India. The aim is to evaluate the patients presenting with dyspepsia between Jan 2014 to Dec 2018.All patients underwent thorough physical examination and were subjected to upper G.I.endoscopy. The policy of `open access endoscopy' was followed in the endoscopy unit where patients were directly referred by medical practitioners and private hospitals without prior opinion of gastroenterologist. The findings of endoscopic examination which were already recorded were retrived, and analysed. Inclusion criteria were all patients seen by us and referred with symptoms included in the study. Patients who were too risky to undergo the procedure and those who were not cooperative were excluded from the study.

Esophagogastroduodenoscopy was done under local pharyngeal anaesthesia with 10% xylocaine spray with observation for one hour after the procedure. The entire procedure was done as a outpatient.

3. Result

Total number of patients who underwent scopy for various indications were 814 as in Table 1.

Table 1: Various indications for endoscopy

S.no.	Indications for endoscopy	No. of patients	Percentage
1	Dyspepsia	461	56.6%
2.	Upper G.I.Bleed	122	15%
3.	Dysphagia	69	8.5%
4.	Anemia	68	8.4%
5.	Vomitting	56	6.5%
6.	Weight loss	28	3.4%
7.	Hiccough	10	1.3%

Out of 814 patients, 461 (56.6%) patients had symptoms of dyspepsia.

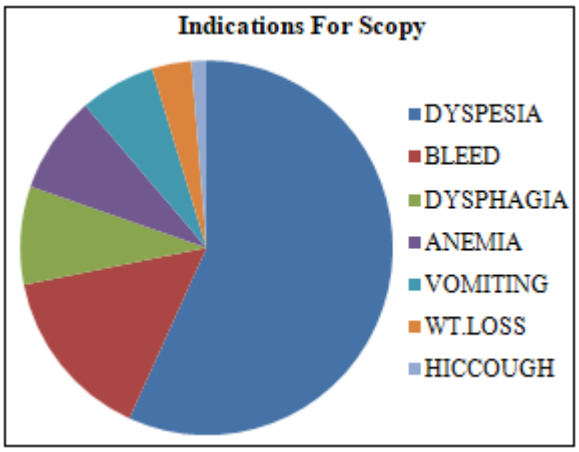

Figure 1: Various indications for endoscopy

The dyspeptic symptoms were slightly common in males compared to female.Table:2

Table 2: Gender distribution in patients who undergone endoscopy for Dyspepsia

S.no	Sex	No. of patients	Percentage
1.	Male	248	54%
2.	Female	212	46%
Total		461	

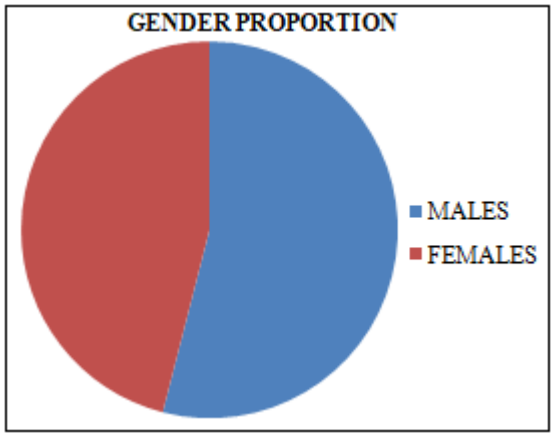

Figure 2: Male female distribution in patients who underwent endoscopy for Dyspepsia

Age distribution of patients with dyspepsia were as shown in Table.3

Table 3: Age distribution who underwent scopy for Dyspepsia

S.no	Age	No. of patients	Percentage
1.	<20	19	4.1%
2.	21-30	71	15.4%
3.	31-40	95	20.6%
4.	41-50	71	15.4%
5.	50-60	96	20.8%
6.	61-70	83	18%
7.	71-80	22	4.8%
8.	>80	3	0.6%

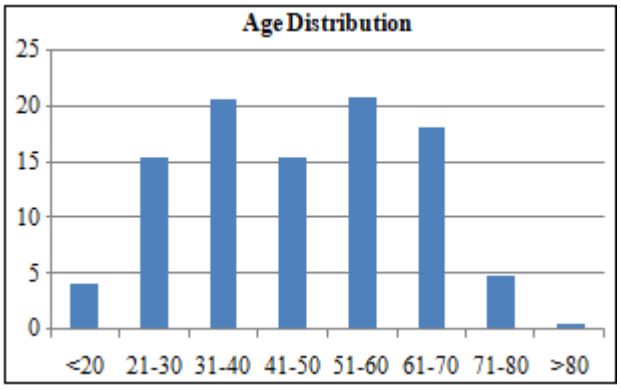

Figure 3: Age distribution of patients with dyspepsia

4. Discussion

The pattern of gastrointestinal disorders is unevenly spread all over the world. The risk factors like smoking, alcohol, tobacco, food habits, drugs, physical and mental stress, foreign bodies and bacterial infections are actively playing an important role in predisposition and progression of these disorders (11, 12).

The primary aim of endoscopy in the management of upper gastrointestinal symptom is to detect organic diseases. Those presenting with recurrent vomiting, dyspepsia together with weight loss or upper gastrointestinal bleeding were significantly more likely to get a positive diagnosis. Patient presenting with alarm symptom was 2.3 times more likely to yield positive endoscopic finding compared to one without alarm symptoms (13).

In this study, out of 461 patients with dyspepsia who underwent endoscopy, 248 (54%) patients were males and 212 (46%) patients were females. The male predominance could be due to risk factors like smoking, alcohol (14, 15).However few studies show female predominance probably because more females are being referred in centre of endoscopy (16, 17).

The mean age observed in our study was 42.5years and maximum number were in the age group was in 5th decade, probably because of the symptoms of the disease are more prevalent in elderly age group (15, 18).In study by Ray and Pal done at referral Railway hospital, Kolkotta, the mean age group of study was 51 to 60 years (19).

In our study in patients with dyspepsia, gastritis was the commonest finding 392 (85%). This correlates with study done at Saudi Arabia (20). Study from Delhi, Hyderabad, Mumbai from India also shows this finding (21). Occasionally gastritis can be so severe or even life threatening due to symptoms or internal bleeding (22).

Figure 4: Severe gastritis

Our endoscopy findings as in Table 4 are based on gross appearance of gastric and oesophageal mucosa. All patients underwent endoscopic biopsy from mucosa of stomach to grade the inflammation, histopathological changes of metaplasia, dysplasia if any and to confirm malignancy in case of obvious growth.

Table 4: Endoscopy findings in patient with dyspepsia

S.no	Findings	No. of patients	Percentage
1.	Gastritis	392	85%
2.	Duodenitis	194	42%
3.	Oesophagitis	78	17%
4.	Growth stomach	11	2.3%
5.	Duodenal ulcer	52	11%
6.	Gastric ulcer	52	11%
7.	Portal gastropathy	16	3.4%
8.	Normal	16	3.4%

(Many patients had more than one symptom, so percentage exceeds 100)

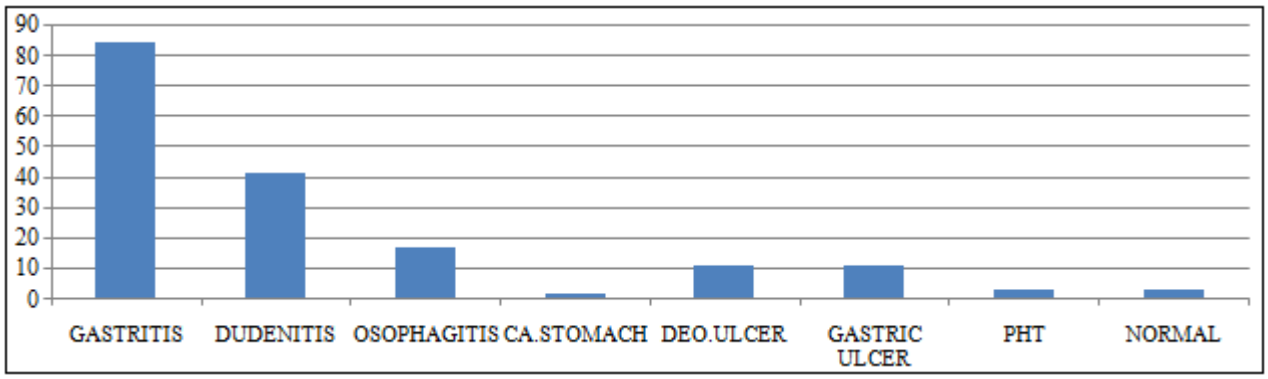

Figure 5: Endoscopy findings in patient with dyspepsia

In our study, the incidence of oesophagitis was 17% (78 patients) compared to 11%, a study conducted by Khalid Mahmood et al (23). In our study out of 461patients with dyspepsia, 193 (42%) patients had finding of duodenitis. In a study by Immanual et al, the incidence was 27% (24). In our study, the frequency of incidence of gastric ulcer and duodenal were same with both occurring in 52 patients (11%) each. Study of Khalid Mohamood et al showed gastric ulcer occurring more frequent than duodenal ulcer (23).

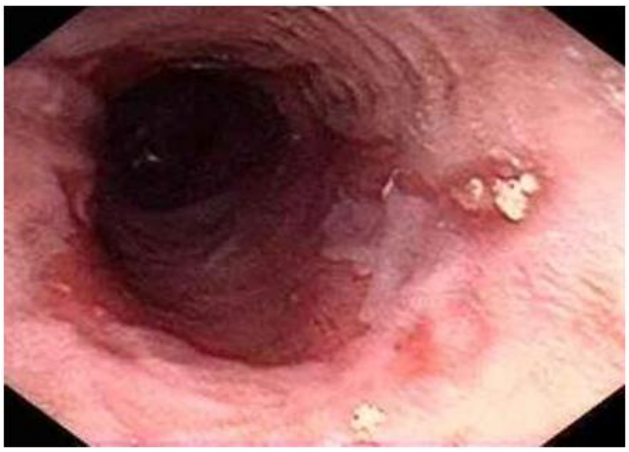

Figure 6: Oesophagitis

Figure 7: Oesophageal varices

Study from Chhattisgarh, India by Yasmeen Khan et al has shown the prevalence of gastric cancer to be 6.7% (25). Number of patients with gastric carcinoma in our study were 11 (2.3%) out of 461 with dyspepsia. This is comparitively lower than study by Emmanual jeje et al which was 4.6% but higher than the study done by Kalid Mahmood and Mahumad Inayatullah et al which was 1.17% (24, 23, 26).

The incidence of upper gastrointestinal malignancy is on the raise in both national and the international scenario (27, 28).H pylori is a class I carcinogen and a known risk factor for active gastritis, peptic ulcer, mucosa associated lymphoid tissue lymphoma and gastric cancer.

H. pylori prevalence in India varies from 60 to 80% (29, 30) In our study, all patients with symptoms of peptic ulcer disease were biopsied from mucosa of stomach and sent for histopathological examination. All patients (100%) histopathological report of chronic nonspecific gastritis. 60% of the patients had H.pylori bacilli positive on microscopy.

5. Conclusion

Proper history and physical examination followed by selective investigations should be a rule in dyspeptic patients to confirm or exclude serious disease. Endoscopy is the 'gold standard test' for patients with upper gastrointestinal symptoms. Commonest symptom of upper gastrointestinal tract was dyspepsia. Males with dyspepsia are more common than females. Maximum peak incidence of dyspepsia was fifth decade of life. At endoscopy, gastritis was the commonest finding followed by duodenitis and oesophagitis. Duodenal ulcer and gastric ulcer occurred in equal proportion. Alarming pathology of carcinoma stomach occurred in 2.3% of patient with dyspepsia which would have been missed if not properly evaluated. In patients with upper gastrointestinal symptoms, endoscopy which is highly effective and appropriate investigation enhances the early diagnosis and initiates early medical and surgical management. All patients have to be given health education regarding life styles, food habits, personal hygiene to bring down the incidence of gastrointestinal diseases.

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