Studying the clinical presentation of the patients undergoing upper Gastrointestinal endoscopy along with the frequency and distribution of findings in VARIOUS age groups and genders

First Author: Dr Abhijit Mulay, Assistant Professor, Department of Medicine, Dr Balasaheb Vikhe Patil Rural Medical College, Loni. Tal Rahata, Dist: Ahmednagar, Maharashtra, Pin Code 413736, INDIA.

Second and Corresponding Author: Dr Digvijay Shinde, Assistant Professor, Department of Medicine, Dr Balasaheb Vikhe Patil Rural Medical College, Loni, INDIA.
Email: digvijayshinde@gmail.com

Received Date: 18/06/2023 Revised Date: 20/06/2023 Accepted Date: 29/07/2023

Abstract

Background: Discomfort has been defined as a negative feeling which may be subjective in nature that may include an array of symptoms such as abdominal fullness, early satiety, bloating, nausea or vomiting. Present study was aimed to study clinical presentation of the patients undergoing upper Gastrointestinal endoscopy along with the frequency and distribution of findings in various age groups and genders. **Material and Methods:** Present study was Hospital based prospective descriptive study, conducted in patients above 13 years of age, of both gender, with uncomplicated and uninvestigated dyspepsia. **Results:** Out of 100 patients, there were 68 (68%) male patients, 32 (32%) female patients, most of the patients were in the age group of 41-50 years (25%) followed by the age group 31-40 years (23%). Most common abnormal endoscopic finding was gastritis 27 (54.1%) patients, followed by GERD in 14 (28.6%) of patients, Duodenitis in 4 (9.1%) patients, esophagogastritis was present in 4(9.1%) patients. Carcinoma stomach in 1 (1.4%) patients, carcinoma esophagus were noted in 8 (18.3%) patients, gastroduodenitis in 9 (16.4%) patients. Malignant lesions were seen frequently in patients aged more than 50 years. Most common component of dyspepsia was epigastric pain and discomfort, seen in 90 (90%) patients, followed by nausea and/or vomiting 78 (78%) patients, heart burn in 70 (70%) patients, food intolerance in 52 (52%) patients, indigestion in 48 (48%) patients and loss of appetite and/or weight in 35 (35%) patients. **Conclusion:** Upper GI endoscopy can be helpful to uncover the cause and helps to start an appropriate management. Upper GI endoscopy is an important tool in the diagnosis, follow up and treatment in upper GI disease.

Keywords: Dyspepsia, upper GI endoscopy, GERD, gastritis

Introduction: Discomfort has been defined as a negative feeling which may be subjective in nature that may include an array of symptoms such as abdominal fullness, early satiety, bloating, nausea or vomiting[1]. It is one of the commonest presentation both at general medical as well as gastroenterology outpatient clinics. Dyspepsia has an extensive differential diagnosis and a heterogeneous pathophysiology. It occurs in approximately 25% (13 to 40%) of the population each year. It is also responsible for substantial health care cost and considerable time lost from work [2].

The common symptoms included in dyspepsia are heartburns, acid brush, dysphagia, belching, abdominal pain etc. Often denoted as organic dyspepsia but sometimes no lesions are found after investigations and such cases are known as functional dyspepsia[3,4]. The upper gastrointestinal tract comprises of the oropharynx, hypopharynx, esophagus, stomach and the duodenum up to the second part[5].

The most sensitive investigation for diagnosing Upper Gastrointestinal (G.I.) disease is upper G.I. Endoscopy. Diagnostic endoscopy is a safe procedure with less than 2% complication rate which are usually minor.[6,7] The main purpose of the Upper Gastrointestinal endoscopy (UGIE) is the early identification of etiology and to commence appropriate treatment as early as possible and to exclude organic Upper G.I. disease[8]. Present study was aimed to study clinical presentation of the patients undergoing upper Gastrointestinal endoscopy along with the frequency and distribution of findings in various age groups and genders.

Material And Methods

Present study was Hospital based prospective descriptive study, conducted in department of gastroenterology, at XXX medical college and hospital, XXX, India. Study duration was of 2 years (September 2014 to August 2016). Study approval was obtained from institutional ethical committee.

Inclusion criteria

- Patients above 13 years of age, of both gender, with uncomplicated and uninvestigated dyspepsia, willing to participate in present study

Exclusion criteria

- Pregnant and lactating women,
- Patients with acute bleed and patients in shock,
- Patients with HIV/HBsAg positive status,
- Disoriented patients or uncooperative patients,
- Patients not willing for endoscopy,
- Unfit patients for endoscopy.

Study was explained to patients in local language and written consent was taken for participation and study. A detailed clinically history was obtained, followed by 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.

All the patients in this study group, on outpatient basis underwent upper gastro-intestinal endoscopy under topical anesthesia. The patients were asked to fast for at least 6 hours prior to the procedure. Patients who required sedation were given 5-10 mg of Diazepam before the procedure. Lignocaine viscous or oral lignocaine sprays were given to the patient 5-10 minutes before the procedure for the local anesthetic effect. The upper gastrointestinal endoscopy was conducted with Olympus, flexible, fiberoptic endoscope with patients in left lateral position.

The instrument is advanced under direct vision, with the tip of the endoscope in central lumen. Using the optimal insufflations to keep the lumen of the esophagus well distended. Esophagus was looked for any inflammatory changes, growth. The gastro-esophageal mucosal junction was identified at 38-40 cms from the incisors. (This junction is usually serrated and readily identified by the color difference between the esophageal and gastric mucosa, called as Z line).

The position of the esophageal hiatus in the diaphragm is identified by asking the patient to inhale deeply, the diaphragmatic hiatus during inspiration creates an imprint on the esophageal and gastric wall. The position of both the hiatus and the mucosal junction are recorded in order to document the possibility of a hernia or of a columnar lined esophagus.

Gastro-esophageal junction should be observed for closed or widely patulous. On entering the stomach, endoscope slightly down and towards the left, a view of greater curvature and of the posterior wall is obtained. Aspiration of all retained liquid is done to reduce the risk of aspiration and to allow proper examination of the stomach. A rotation movement of the tip of the instrument allows examination of the anterior and posterior walls of the body of the stomach. The lesser curvature down to the angulus and the greater curvature are viewed by the same position motion. The most proximal part of both the curvatures are better examined when using the J maneuver. Stomach was looked for inflammatory changes, ulcer, growth.

By rotating and angulating the tip endoscope is advanced to assess the antrum. Prepyloric and pyloric ring observed directly, the passage through the pylorus being done under direct vision. When the pylorus yields, complete assessment of the duodenum is done up to second part.

Data was collected and compiled using Microsoft Excel, analysed using SPSS 23.0 version. Statistical analysis was done using descriptive statistics.

Results

Upper Gastrointestinal Endoscopy was done in all the patients presenting to our hospital with symptoms of dyspepsia for 4 or more than 4 weeks. Out of 100 patients, there were 68 (68%) male patients, 32 (32%) female patients, age ranging from 13 years to 80 years. The mean age of the patients in this study was found to be 42.6 years. Most of the patients were in the age group of 41-50 years (25%) followed by the age group 31-40 years (23%).

Table 1: Incidence of Dyspepsia in different age groups and Sex

AGE GROUP	MALE	FEMALE	NO. OF CASES	%
13-20	2	1	3	3
21-30	8	13	21	21
31-40	10	13	23	23
41-50	15	10	25	25
51-60	5	2	7	7
61-70	7	9	16	16
71-80	3	2	5	5
TOTAL	50	50	100	100

Normal study was observed in 16 (31.6%) patients. Most common abnormal endoscopic finding was gastritis 27 (54.1%) patients, followed by GERD in 14 (28.6%) of patients, Duodenitis in 4 (9.1%) patients, esophagogastritis was present in 4(9.1%) patients. Carcinoma stomach in 1 (1.4%) patients, , carcinoma esophagus were noted in 8 (18.3%) patients, gastroduodenitis in 9 (16.4%) patients, least common findings observed in my study was gastric ulcer (0%), duodenal ulcer (1.4%) and CA stomach (1.4%).

Table 2: Frequency of various diseases on Endoscopy in patients presenting with dyspepsia

ENDOSCOPIC FINDINGS	MALE (%)	FEMALE (%)	TOTAL (%)
Normal	11 (16%)	5 (15.6%)	16 (31.6%)
Esophagitis	5 (7%)	1 (3.1%)	6 (10.1%)
GERD	9 (13%)	5 (15.6%)	14 (28.6%)
CA Esophagus	4 (5.8%)	4 (12.5%)	8 (18.3%)
Gastritis	18 (26%)	9 (28.1%)	27 (54.1%)
Gastric Ulcer	0	0	0
CA Stomach	1 (1.4%)	0	1 (1.4%)
Esophagogastritis	2 (2.9%)	2 (6.2%)	4 (9.1%)
Duodenitis	2 (2.9%)	2 (6.2%)	4 (9.1%)

Gastroduodenitis	7 (10.2%)	2 (6.2%)	9 (16.4%)
Duodenal Ulcer	1 (1.4%)	0	1 (1.4%)
Eso+Gastro+Duodenitis	2 (2.9%)	0	2 (2.9%)
Varices	6 (8.8%)	2 (6.2%)	8 (15%)
TOTAL	68	32	100

All Patients were subdivided into different age groups. Most common clinically significant endoscopic findings were seen in age group between 21-50 years. Most common finding noted in the age group between 21-50 years was inflammatory lesions, that included gastritis, esophagitis, esophagogastritis, duodenitis, gastroduodenitis and esophagogastroduodenitis. 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.

Table 3: Frequency of various diseases on Endoscopy in different age groups

AGE	NORMAL	GERD	INFLAM	ULCER	MALIG	TOTAL
13-20	0	1	11	0	0	3
21-30	2	9	10	0	0	21
31-40	6	4	13	0	0	23
41-50	5	1	15	2	2	25
51-60	0	0	7	0	0	7
61-70	2	2	6	1	5	16
71-80	2	0	1	0	2	5

Analysis of various diseases on endoscopy showed that the most common pathology was inflammatory lesions seen in 57 (57%) of patients, of which 41 (60.2%) were male patients and 16 (50%) were female patients, followed by GERD were next common abnormal findings, 14 (14%) in the decreasing order of the frequency of which 9 (13.2%) were males and 5 (15.6%) females. Malignancy was next in the order of findings with total 9 (9%) with males 5 (7.3%) and females 4 (12.5%) followed by Ulcer dyspepsia was seen in 4 (4%) of which 2 (2.9%) males and 2 (6.2%) females. Normal findings were observed in 16% patients.

Table 4: Frequency of various diseases on Endoscopy in males and females

GENDER	NORMAL	GERD	INFL	ULCER	MALIG	TOTAL
Male	11 (16.1%)	9 (13.2%)	41 (60.2%)	2 (2.9%)	5 (7.3%)	68%
Female	5 (15.6%)	5 (15.6%)	16 (50%)	2 (6.2%)	4 (12.5%)	32%

Out of 81 patients with clinically significant endoscopic findings, most common pathology was seen in stomach of 24 (29.6%), patients followed by esophagus 23 (27.3%) and duodenum 2 (2.4%). Esophagus and stomach were involved in 20 (24.6%) patients followed by stomach and duodenum 20 (24.6%) patients and all three esophagus, stomach and duodenum 4 (4.9%) patients.

Table 5: Frequency of various sites on Endoscopy in different age groups

SITE	AGE<50YRS	AGE>50YRS	TOTAL	%
Esophagus	17	6	23	28.3
Stomach	18	6	24	29.6
Duodenum	1	1	2	2.4
ESO+STO	17	3	20	24.6
STO+DUO	5	6	11	13.5

ESO+STO+DUO	2	2	4	4.9
Total	57	24	81	100

Out of 100 patients, the most common component of dyspepsia was epigastric pain and discomfort, seen in 90 (90%) patients, followed by nausea and/or vomiting 78 (78%) patients, heart burn in 70 (70%) patients, food intolerance in 52 (52%) patients, indigestion in 48 (48%) patients and loss of appetite and/or weight in 35 (35%) patients.

Table 6: Frequency of various symptoms of dyspepsia in males and females

CLINICAL FEATURES	MALE	FEMALE	TOTAL	%
Epigastric Pain	62	28	90	90
Heartburn	50	20	70	70
Nausea/Vomiting	60	18	78	78
Food Intolerance	40	12	52	52
Indigestion	38	10	48	48
Loss of Weight/Appetite	20	15	35	35

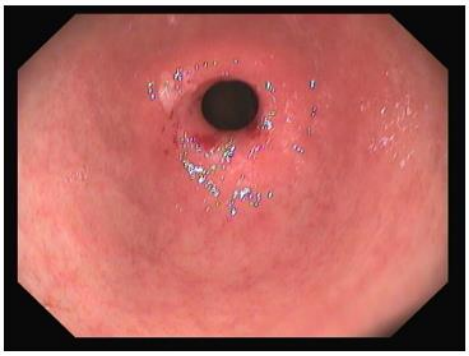

Figure 1: Antral Gastritis

Figure 2: Barret's Esophagus

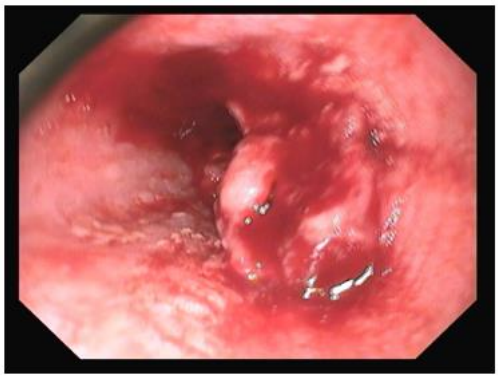

Figure 3: Carcinoma of Esophagus

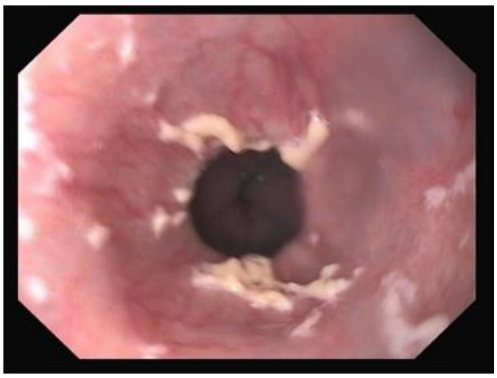

Figure 4: Esophageal Candidiasis

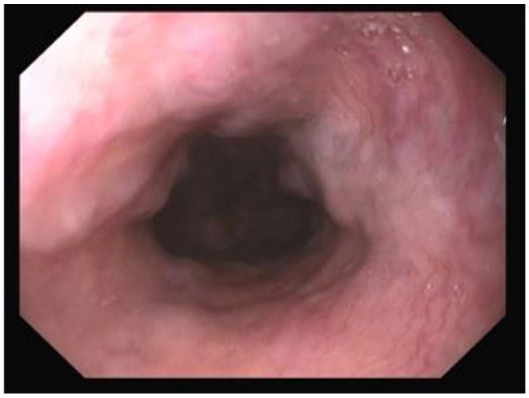

Figure 7 Esophageal varices (Grade 2)

Figure 6: Carcinoma of Stomach

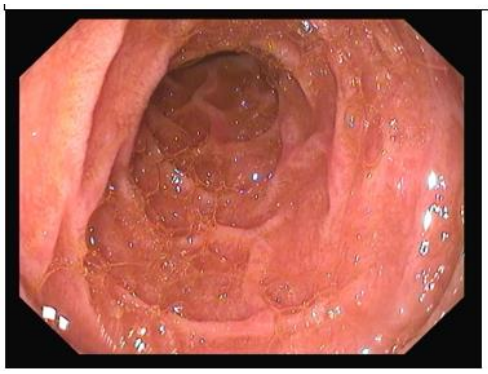

Figure 7: Duodenitis

Figure 8: Duodenal Ulcer

Discussion

Symptoms of dyspepsia alone cannot reliably identify the individuals with malignancy or other important upper GI pathology. Patients who are in the age group 50 and above with new onset dyspepsia and those with symptoms or signs that suggest some structural disease are primarily advised to undergo initial endoscopy.[9] A lot of developments have enhanced the safety and diagnostic capabilities of endoscopy as well as providing therapeutic interventions that make upper gastrointestinal endoscopy (UGIE) the most accurate as well as cost effective tool for evaluating patients with gastrointestinal related signs and symptoms.[10]

Out of 100 patients, 90 (90%) patients had epigastric pain and discomfort as their chief complaint, whereas nausea and vomiting was present in 78 (78%) patients. The other complaints were heart burn 70 (70%), food intolerance 52 (52%), indigestion 48 (48%) and loss of appetite and weight 35 (35%). Similar study was conducted by Thomson A B R et al,[11] in which the common presenting complaints were upper abdominal pain (34.3%), heart burn (24.5%) and acid regurgitation (13.3%), the observations were comparable with that of the present study.

The majority of patients with dyspepsia were in the age group of 41-50 years (25%). The mean age in our study was 42.6 years. Thomson A B R et al.[11] (45.6 years), Ziauddin et al.[12] (42.2$\pm$15.7 years), Choomsri P et al.[13] (41 years) and Khan et al.[14] (40 years) had similar observations in terms of mean age in patients with dyspepsia.

In this study 68% were male patients, 32% were female patients. The male: female ratio in the studies conducted by Khan N et al.[14] was 2.3:1, Ziauddin et al.[12]1.6:1 and Mustapha SK et al.,[15] was 1.1:1 respectively, had majority of patients were males, as observed in our study.

In the present study, clinically significant endoscopic findings were observed in 84 patients accounting for 84% whereas normal study was found in 16 patients (16%). Gastritis

was by far the most common finding in 27 patients (54.5%), while GERD was found in 14 (28.6%). The next common findings were esophagitis, duodenitis accounting for 4 (9.1%) each and duodenal ulcer accounting for 1 (1.4%).

The percentage of cases with gastritis (54.5 %) as well as GERD (28.6 %) in this study was higher than that observed in studies by Sarwar et al.,[16] (gastritis 13 %, GERD 20 %) and Ziauddin et al.,[12] (gastritis 18 %, GERD 14 %).

In our study there were 9 patients with suspected carcinoma, out of which 5 were males and 4 were females, where in 8 (8%) were esophageal malignancies and 1 (1%) was suspected carcinoma stomach. Incidence of gastric malignancies observed by various authors was Choomsri P et al.[13] (1 %), Khan N et al.[14] (3 %) and Ziauddin et al.[12] (4 %). The incidence of gastric malignancy in these studies is higher with that observed in the present study.

Many patients with dyspepsia and negative findings on endoscopy continue to experience symptoms despite acid suppression and/or H. pylori eradication. These patients can be difficult to manage. The majority have functional dyspepsia, for which treatment options include stopping nonsteroidal anti-inflammatory drugs, a trial of antispasmodics, dietary and lifestyle changes, prokinetic agents, sucralfate, simethicone, tricyclic antidepressants, selective serotonin reuptake inhibitors, and cognitive behavior therapy.[17,18]

Conclusion

Dyspepsia is one of the commonest presenting complaints of patients presenting to the hospital or general practice and most of them spend unnecessary bills for the same as well as time lost in treating it without knowing the underlying cause. Hence undergoing an upper GI endoscopy can be helpful to uncover the cause and helps to start an appropriate management. Upper GI endoscopy is an important tool in the diagnosis, follow up and treatment in upper GI disease.

Conflict of Interest: None to declare
Source of funding: Nil

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