Original Article

Endoscopic Evaluation of Dyspeptic Patients

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Abstract:

Background*: Dyspepsia is a common gastrointestinal problems affecting all age groups & social classes.*

Objectives: *The purpose of the study was to determine the endoscopic findings of dyspeptic patients & to observe the demographic characteristics (age, sex, residence, education, socioeconomic condition) of the patients presented with dyspepsia.*

Methodology: *This was a cross-sectional study conducted at Department of Medicine, Rangpur Medical College Hospital, Rangpur over a period of 1 year from 1st June 2010 to 31st May 2011. 150 dyspeptic patients of 18 or > 18 years old irrespective of sexes and suffering from one or more of the five symptoms (flatulence, food intolerance, epigastric pain, heartburn and aerophagia) for at least 6 months duration were recruited for the study from outpatient and in-patient department who were met the inclusion & exclusion criteria. Data were collected by using a structured questionnaire after taking written consent & upper GI Endocopy were done following meticulous history & through physical examination.*

Result: *Over one-third (36%) of the patients were below 30 years, 17% between 30 – 40 years old, predominantly were rural residents, having primary to secondary level of education with monthly income below Taka 10000. Males to females ratio were 2:1. More than half (50.6%) of the patients was smoker, 32.7% had habit of taking tea, 10% were tobacco chewing and rest 6.7% used to take spicy meal.. Epigastric discomfort, flatulence and heartburn were the common complaints in both male and females but vomiting were proportionately higher in male dyspeptics compared to the female dyspeptics. Common associated symptoms like constipation and weight loss were equally in both sexes. Upper GI endoscopy revealed 17.3% of male and 11.5% of female with abnormal findings.Others abnormal findings included gastric ulcer, gastritis and duodenal ulcers (17.6 vs. 33.3%; 23.6 vs. 50% and 17.6 vs. 16.7% in male and female respectively). Majority (nearly 90% in either sex) of patients does not show any lesions on endoscopic examination and hence can be considered as non-ulcer dyspepsia.*

Conclusion: *The study concludes that majority of patients with complaints of dyspepsia have no lesion on the gastric or duodenal mucosa and can be considered non-ulcer dyspepsia. The study findings also suggest that dyspepsia is a disease of young and early middle aged people with males being more likely to develop the disease than the females. However, large-scale community survey is recommended for further evaluation of dyspepsia.*

Key Words:
Dyspepsia, Non- ulcer dyspepsia (NUD), Endoscopy.

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Introduction:

Dyspepsia is defined as 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. Although these symptoms may be associated with a wide range of specific clinical diagnoses (peptic ulcer disease, gastric cancer, and gastro esophageal reflux among others), often no organic cause is found (functional dyspepsia). Endoscopic examination of the upper gastrointestinal tract remains the 'gold standard' initial approach in the management of patients with dyspepsia because of its ease, reliability, diagnostic superiority, and the ability that it gives the endoscopist to perform biopsies and/or therapeutic interventions.[1]

Dyspepsia was defined based on Rome II criteria as pain or discomfort centred in the upper abdomen for at least 12 weeks which need not be consecutive within the preceding 12 months and no evidence indicates that it is exclusively relieved by defecation or associated with the onset of a change in stool frequency or stool form (i.e. not irritable bowel syndrome).[2] Chronic and recurrent dyspeptic symptoms such as epigastric pain, postprandial fullness and early satiety are common in the general population.[3,4] It occurs in approximately 25 percent (range 13 to 40 percent) of the population each year. Dyspepsia incurs substantial health care costs and considerable wage loss .[4] Dyspepsia is divided into two main types: organic and non-ulcer dyspepsia. Dyspepsia accounts for about 4-5% of all the general practitioner consultations and about 20-40% of all gastroenterological consultations [5].The association between dyspeptic symptoms and endoscopic findings is still not well-characterized. For example, one outstanding dilemma is the frequent overlap between dyspeptic and reflux symptoms.[6] Dyspeptic symptoms with concomitant prominent heartburn or regurgitation are thought to be associated with gastro esophageal reflux disease with or without esophagitis and the risk of peptic ulcer is considered to be negligible in these patients.[1,7]

An organic cause is found however in only 40% of patients most commonly peptic ulcer disease, gastroesophageal reflux disease and gastric cancer.[8] A number of medications can cause severe gastrointestinal irritation like Non steroidal anti-inflammatory drugs (NSAIDS), aspirin, potassium supplement, iron, antibiotics, corticosteroids, narcotics, estrogens, theophylline, ACE inhibitors, loop diuretics, nitrates and leovodopa. Some foods can provoke dyspepsia, including tomatoes, spicy foods, excessive alcohol, fatty foods and coffee. The mechanism by which food may cause dyspepsia include overeating,delayed gastric emptying (cholecystokinin induced), direct mucosal irritation, or provocation of gastroesophageal reflux. Patients who are lactose intolerant may experience abdominal pain followed by flatulence or diarrhoea with larger intake. Approximately 15% of patients referred to primary practitioners with dyspepsia have peptic (gastric or duodenal) ulcers. Gastric cancer is present in less than 2% of patients with dyspepsia, but is rare in patients under age 50.[8] Most gastric cancers presenting with dyspepsia are advanced, with a 5- year survival of 10%. There is a large overlap between dyspepsia and gastro esophageal reflux disease. Over half of patients have no apparent organic or biochemical cause of dyspepsia and is labelled as functional or non-ulcer dyspepsia.[9] Usually physical examination reveals no abnormality but signs of serious organic disease like weight loss, organomegaly, abdominal mass, jaundice, or fecal occult blood, warrant immediate investigations.[9]

Bangladesh is a developing country with ever-shrinking health budget. Dyspepsia imposes a great burden for the family, society as well as for the nation. Dyspepsia is a highly focused research interest in the Western country. It is assumed that there will be great difference between the prevalence rate, its pattern and impact of dyspepsia in developing country like Bangladesh due to different socio-cultural background. A study conducted on defined population in the year 1985 reported 41% point prevalence of peptic ulcer dyspepsia in Bangladesh [10]. Besides the direct cost of medical care, these diseases lead to reduction in work productivity. The mean number of days per year the patients were absent form works due to dyspepsia ranged between 3.3 to 2.2.[11,12] There is no fundamental study regarding the dyspepsia in the Northern territory of Bangladesh. Therefore, this study was undertaken to identify demographic profile, assess correlation between clinical presentations and endoscopic findings, to improve the quality of management of dyspeptic patients & thereby reducing the morbidity and mortality.

Methodology:

This cross-sectional study was conducted in the Department of Medicine, Rangpur Medical College Hospital, Rangpur, over a period of 1 year from 1st June 2010 to 31st May 2011. 150 dyspeptic patients of 18 or > 18 years old irrespective of sexes and suffering from one or more of the five symptoms (flatulence, food intolerance, epigastric pain, heartburn and aerophagia) for at least 6 months duration were recruited for the study from outpatient and in-patient department who were met the inclusion criteria & gave the informed written consent to be included in this study were finally selected. Patient who had past documented peptic ulcer or oesophagitis, hepato-biliary and pancreatic disorders, had past gastric surgery, overt gastrointestinal bleeding & Seriously ill patients were excluded from this study. The study was conducted with prior ethical clearance of Ethical committee of Rangpur Medical College, Rangpur. Before data collection , informed written consent was taken from the respondent. Data were collected using a structured questionnaire by the researcher with face to face interview. Moreover confidentiality of collected data was maintained with highest priority. Upper GI Endocopy was done after meticulous history & through physical examination. Result of the physical examination & upper GI endoscopy were entered into a computer generated analysis program. The data obtained from the study were analysed by using computer based Statistical Programs for Social Science (SPSS) version 11.5.The test statistics used to analyse the

data were descriptive statistics. Data were expressed in number & percentage and show in tabulated forms, pie charts & bar diagram.

Result:

Age distribution:

Over one-third (36.1%) of the patients was below 30 years followed by 17.3% between 31 – 40 years, 16.7% between 51 – 60 years, 12.7% between 41 – 50 years, 12% between 61 – 70 years and remaining 5.3% above 70 years old. The mean age of the patients was 36.3 ± 5.7 years and youngest and the oldest patients of dyspepsia were 22 and 77 years old respectively (Table I).

Table I

Distribution of patients by age (n = 150)

Age (years)	Frequency	Percentage
<30	54	36.0
31 – 40	26	17.3
41 – 50	19	12.7
51 – 60	25	16.7
61 – 70	18	12.0
>70	08	5.3

Mean age = 36.3 ± 5.7 years; **range** = 22 – 77 years.

Sex distribution:

Figure 1 shows that 98(65%) of 150 dyspeptic patents were male and the rest (35%) was female giving a male to female ratio roughly of 2:1.

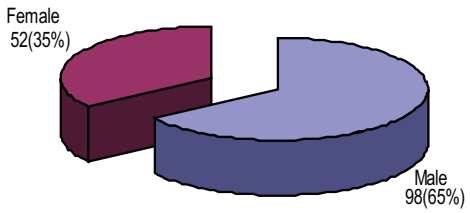

Fig.1: *Distribution of patients by sex (n = 150)*

Distribution by residence:

Sixty percent of the patients were rural residents and 40% urban residents (Fig.2).

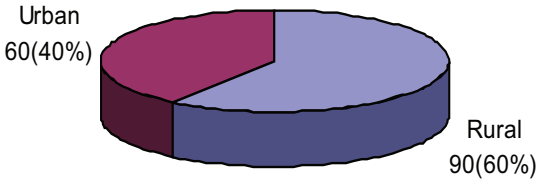

Fig. 2: *Distribution of patients by their residence*

Level of education:

Almost 55% of the patients were primary level educated, 22% secondary level educated, 11.3% SSC & HSC level educated, 8% illiterate and only 4% were graduate or postgraduate level educated (Fig.3).

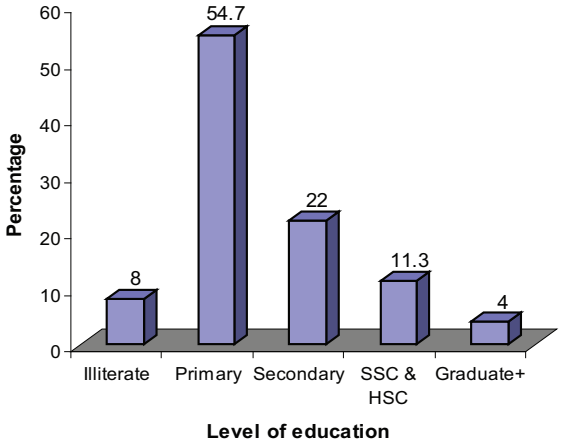

Fig. 3: *Distribution of patients by their level of education*

Associated symptoms:

The associated symptoms of dyspepsia were constipation and weight loss (12.2% and 10.2% vs. 9.6% and 9.6% in male and female respectively). The patients with symptoms like vomiting were proportionately higher in male dyspeptic patients compared to their female counterparts (7.1% vs. 5.8% respectively) (Table II)

Table II

Distribution of patients by associated symptoms (n = 150)

Dyspeptic symptoms	Male (n = 98)	Female (n = 52)
Constipation	12(12.2)	5(9.6)
Weight loss	10(10.2)	5(9.6)
Vomiting	7(7.1)	3(5.8)

Figures in the parentheses denote corresponding percentage

Patients' behavioural factors:

Over half (50.6%) of the patients was smoker, 10% tobacco chewer, 32.7% had habit of taking tea, and the rest 6.7% were accustomed to spicy meals (Table III).

Table III

Distribution of patients by their behavioural factors (n = 150)

Patients' habit	Frequency	Percentage
Smoking	76	50.6
Tobacco chewing	15	10.0
Taking tea	49	32.7
Spicy meal	10	6.7

Presenting complaints:

Epigastric discomfort, flatulence and heartburn were the common complaints in the both male and female dyspeptics (22.9% vs. 25%, 16.3% vs. 19.2% and 15.3% vs. 19.2% respectively). Food intolerance, indigestion and aerophagia were observed in 6.1%, 5.1% and 6.1% in male and 5.8%, 7.7% and 19.2% in female patients respectively (Table IV).

Table IV

Distribution of patients by presenting complaints (n = 150)

Presenting complaints	Male (n = 98)	Female (n = 52)
Epigastric discomfort	22(22.9)	13(25.0)
Flatulence	16(16.3)	10(19.2)
Heartburn	15(15.3)	10(19.2)
Food intolerance	6(6.1)	3(5.8)
Indigestion	5(5.1)	4(7.7)
Aerophagia	6(6.1)	10(19.2)

Figures in the parentheses denote corresponding percentage

Endoscopic findings:

Majority of males (82.7%) and females (88.5%) did not exhibit any abnormality on endoscopic examination. Only 17(17.3%) males and 6(11.5%) females had abnormal findings in the gastric and/or duodenal linings (Table V).

Table V

Distribution of patients by endoscopic findings (n = 150)

Endoscopic findings	Male (n = 98)	Female (n = 52)
Normal	81(82.7)	46(88.5)
Abnormal	17(17.3)	6(11.5)

Figures in the parentheses denote corresponding percentage.

Different types of abnormal endoscopic findings:

The different types of abnormal endoscopic findings with respect to sex are illustrated in table (Table VI). The commonest ones are gastric ulcer, gastritis and duodenal ulcers.

Table VI

Distribution of patients by types of abnormal endoscopic findings

Types of abnormal endoscopic findings	Male (n = 17)	Female (n = 6)
Esophagitis	1(5.9)	0(0.0)
Gastric ulcer	3(17.6)	2(33.3)
Gastritis	4(23.6)	1(16.7)
Duodenal ulcer	3(17.6)	00
Duodenitis	2(11.8)	00
Carcinoma stomach	1(5.9)	00
Others (esophagogastritis, gastroduodenitis, esophagogastroduodenitis)	3(17.6)	00

Figures in the parentheses denote corresponding percentage.

Discussion

Dyspepsia is a major health problem worldwide specially in the developing countries like Bangladesh where it imposes a lot of financial burden on national economy. The prescriptions for dyspepsia now account for over 10% in primary care, numbering 471 million in 1999 in England and Wales. The most common type of dyspepsia encountered in primary care and gastroenterology practice is functional dyspepsia. Treatment of patients with functional dyspepsia is controversial and often disappointing. The goal is to help patients accept, diminish, and cope with symptoms rather than eliminate them. There is no drug that has consistently been proven to be effective for functional dyspepsia. Patients should be reassured and given dietary and psychosocial advice as needed. A trial of acid suppression may be reasonable in patients who do not respond to the above. The American College of Physicians recommended a trial of antisecretory therapy for patients without any obvious organic cause of dyspepsia who were under the age of 45, while endoscopy should be kept reserved for patients who had little or no response to therapy after 7 to 10 days or whose symptoms had not resolved after six to eight weeks[13]. In the present study, over one-third (36%) of the patients was below 30 years and 17% between 30 – 40 years old indicating that

dyspepsia is disease of young and early middle aged population with males being 2 times more prone to develop the disease than their female counterparts. Chunlertrith and colleagues[14] demonstrated that dyspepsia was found in both gender but females suffer slightly more than male. The age distribution ranges from 15 to 88 years old but common in middle aged group. Other demographic characteristics revealed that patients were predominantly rural residents, with average monthly income below Taka 10000. These demographic characteristics indicate that dyspepsia is usually a disease of low socioeconomic class. Over half (50.6%) of the patients was smoker, 10% had habit of tobacco chewing, 32.7% habit of taking tea, and rest 6.7% were used to having spicy meals. The data thus show that smoking might act as main predisposing factor for dyspepsia.

The patients with symptoms like vomiting and pallor were proportionately higher in male dyspeptic patients compared to female. Epigastric discomfort, flatulence and heartburn were the common complaints in the both sex. Food intolerance, indigestion and aerophagia were less common. Khan et al[15] reported that common

symptoms of dyspepsia were epigastric discomfort (90%), flatulence (72%) and heartburn (70%) which were associated with constipation, weight loss, vomiting and diarrhoea. The abnormal findings included esophagitis (12%), gastric ulcer (10%), duodenal ulcer (8%), gastritis (8%). Peptic ulcer was found in 18% (gastric ulcer 10% and duodenal ulcer 8%) of patients. However, we found a higher percentage of gastric ulcer, gastritis and duodenal ulcers. In our study, 17.3% of male and 11.5% of female exhibited abnormal findings on endoscopic examination which are almost comparable to the findings of Ziauddin [16] (who demonstrated that 24% patients with dyspepsia showed abnormal endoscopic findings) and in close proximity to the findings reported by Sarwar et al[17] (10% of patients had abnormal endoscopic findings). However Sheikh et al[18] reported unusually low prevalence (1.5%) of abnormal endoscopic findings which sharply contrasts with findings of the present study. Etiology of dyspepsia shows considerable variation with respect to geographical distribution of the patients. Gastritis is the commonest cause of dyspepsia in countries like Saudi Arabia[19,] China [20] while in northeastern part of India esophagitis is the commonest, closely followed by gastritis [21]. The present study revealed that majority (nearly 90% in either sex) of patients having complaints of dyspepsia usually do not show any lesion on endoscopic examination which can be considered as non-ulcer dyspepsia. Consistent with these findings Chunlertrith and colleagues[14] also demonstrated non-ulcer dyspepsia to be the most common upper endoscopic finding in simple dyspeptic patient at Srinagarind Hospital.

Conclusion

The study concludes that majority of patients with complaints of dyspepsia have no lesion on the gastric or duodenal mucosa and can be considered non-ulcer dyspepsia. The common abnormal endoscopic findings included gastric ulcer and gastritis and duodenal ulcers relating to dyspepsia. The study also suggest that dyspepsia is a disease of young and early middle aged people with males being more likely to develop the disease. However, large-scale community survey is recommended for further evaluation of dyspepsia.

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