



ANALYSIS OF UPPER GASTROINTESTINAL ENDOSCOPIC BIOPSIES IN CASES OF DYSPEPSIA IN A TERTIARY CARE CENTRE

Harshini Narasimmaraj

Second Year MBBS, Department Of Pathology, Saveetha Medical College, Thandalam, Chennai-602 105. Tamil Nadu.

Ganthimathy Sekhar*

Professor, Department Of Pathology, Saveetha Medical College, Thandalam, Chennai-602 105. Tamil Nadu. * Corresponding Author

ABSTRACT Dyspepsia is described as recurrent upper abdominal discomfort, burning sensation, bloating or gassiness, nausea and epigastric fullness after eating. It is one of the most commonly seen gastrointestinal symptom globally (7%-45%). This study was done to review the upper endoscopic biopsy findings of patients presenting with dyspepsia in a tertiary care centre. It was a retrospective study involving three hundred and thirty-six cases of dyspepsia at tertiary care centre. The endoscopic biopsy findings were accessed and the demographic details and histological findings were tabulated and analyzed. There was slight preponderance of males with the predominant age group affected being between 41 and 50 years. The most common histological finding was chronic non-specific gastritis and Helicobacter pylori (H.pylori) infection was present a significant number of cases.

KEYWORDS : Dyspepsia, Gastritis, Helicobacter Pylori.

INTRODUCTION:

Dyspepsia is a symptom that refers to discomfort or pain localized to the upper abdomen. It is also referred to as indigestion by patients and is a commonly seen condition both in the general medicine as well as gastroenterology outpatient clinics. The prevalence of dyspepsia globally is about 7% - 45%, prevalence rates of 25.8% is seen in United States, 34.2% in New Zealand and in India it is about 30.4%.

Dyspepsia has an extensive differential diagnosis and heterogenous pathophysiology. Causes include luminal gastrointestinal tract disorders, medication use, pancreatobiliary disease, systemic disorders, increased visceral sensitivity, abnormal gastroduodenal motility, gastric acid hypersecretion, helicobacter pylori-associated gastritis or psychological factors, peptic ulcer disease, gastro-oesophageal reflux or malignancy. Upper gastrointestinal endoscopy is an important investigation done to find the etiology in specific cases. Histopathological analysis of the biopsy specimens gives valuable findings that are essential to treat this common and debilitating disorder.

MATERIAL AND METHODS:

The study was conducted at the Department of Pathology of Saveetha Medical College, Chennai, India after obtaining ethical clearance from the Institutional Ethics Committee. It was a retrospective descriptive study of the histopathological findings in the gastric antral endoscopic biopsies done by the Departments of General Surgery, Gastroenterology and General Medicine of the hospital. The study period was between Nov 2017 to Oct 2018 and complete enumeration sampling was done. A total of 336 cases of dyspepsia were found to be recorded during that period. The clinical data and biopsy findings were obtained from the medical records section of the hospital and the records of the histopathology laboratory. The age, gender and the findings in the histopathology reports were tabulated and the descriptive statistics is being presented.

STATISTICAL ANALYSIS:

This study was done based on descriptive statistics and the results were interpreted.

RESULTS:

There was a total of 336 cases of dyspepsia for whom endoscopic biopsies were available for perusal. Of these 185 were males and 151 were females. Endoscopic biopsies had been done for patients ranging from 13 years to 85 years. (Table 1)

Table 1: Age wise distribution of cases of dyspepsia

Age	Number	%
< 20	10	3
21-30	65	19
31-40	70	21
41-50	85	25

51-60	67	20
61-70	32	10
71-80	6	2
>80	1	< 1

The various histological diagnoses noted were superficial erosive gastritis, chronic non-specific gastritis, chronic atrophic gastritis, chronic ulceration, hyperplastic polyp, high grade dysplasia and adenocarcinoma. (Table 2)

Table 2. Number of cases of dyspepsia in each histological category

Histological diagnosis	Number	%
Superficial erosive gastritis	5	1.5
Chronic non-specific gastritis	276	82.1
Chronic atrophic gastritis	39	11.6
Chronic ulceration	1	0.3
Hyperplastic polyp	1	0.3
High grade dysplasia	2	0.6
Adenocarcinoma	12	3.57

The number of cases of each histological type was then correlated with the age group and gender of the cases. (Table 3 and 4).

Table 3: Age group and histological diagnosis

Age	Chronic non specific gastritis	Chronic atrophic gastritis	Superficial erosive gastritis	Chronic ulceration	Hyperplastic polyp	High grade dysplasia	Adenocarcinoma
< 20	9	0	1	0	0	0	0
21-30	61	3	1	0	0	0	0
31-40	59	9	2	0	0	0	0
41-50	68	12	1	1	0	0	4
51-60	51	10	0	0	1	0	5
61-70	25	5	0	0	0	2	0
71-80	3	0	0	0	0	0	2
>80	0	0	0	0	0	0	1

Table 4: Gender and histological diagnosis

Gender	Chronic non specific gastritis	Chronic atrophic gastritis	Superficial erosive gastritis	Chronic ulceration	Hyperplastic polyp	High grade dysplasia	Adenocarcinoma
Male	152	19	3	1	0	2	8
Female	124	20	2	0	1	0	4

Helicobacter pylori positivity was noted in 162 cases (49.8%). (Fig:2)

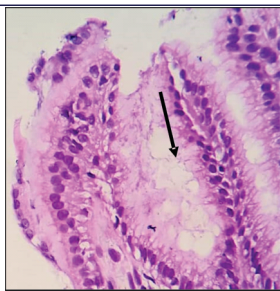


Fig.2. Numerous H.pylori organisms (arrow) seen in the gastric pit(40x)

Among the positive cases, 83 were males and 79 were females. The age wise distribution of cases is tabulated (Table 5)

Table 5: Age groups of H.pylori positive cases

	H. pylori positive cases
13-20	8
21-30	31
31-40	40
41-50	40
51-60	29
61-70	12
71-80	2

DISCUSSION:

Dyspepsia is a common symptom for which patients attend the outpatient services of hospitals. Around 60% of them may have no explanation for their symptoms while in others the causes may range from inflammatory causes to more ominous ones like malignancies. The aim of this study was to determine the histopathological findings in the gastric mucosal biopsies of dyspeptic patients attending a tertiary care centre.

In this study the number of males having dyspepsia outnumbered females. Out of the total number of 336 cases of dyspepsia, 185 were males(55%) and 151(45%) were females. The studies of Andrabi RUS et al (Kashmir) and Correa S (Sri Lanka) also had similar findings.^{3,4} However a Swedish study (Welen K et al) has reported that females were more commonly affected.⁹

In this study the majority of cases of dyspepsia were in the age group between 20 to 60 years with the maximum number occurring in the range of 40 to 50 years. Several other studies have also had a mean age of 41 or 45 years for this symptom.^{3,4} Piotrowicz G (Poland) reported a mean age group of 45 years.⁷ It is interesting to note that the majority of cases of dyspepsia occurred in the age group that is burdened with the most responsibilities ranging from academic performance, working for livelihood, family responsibilities and stressful situations. A study done by Venkatarathnamma P in Karnataka showed that people of the age group of 18 – 40 years were most commonly affected.⁸ Others have reported more cases in the age group above 40 years^{3,4,7}

The predominant histological finding in majority of the cases of dyspepsia (82%) was chronic non-specific gastritis while chronic ulceration and polyps were least common. This has also been found to be the case in other studies done in other parts of the world.^{5,12} This was also the most common histological diagnosis across all age groups and gender. A significant finding in this study was that, out of the 336 cases, none of the cases had normal mucosa histologically although several studies have shown normal mucosal findings in dyspeptic individuals raising the possibility of functional dyspepsia^{1,12,13}

A striking feature was the high degree of positivity for Helicobacter pylori (162 cases (48.2%)) for which there was no significant gender difference (almost equal incidence). Shrivastava et al also observed a higher incidence rate of H.pylori infection among dyspeptic patients(80%).² Countries that have reported the highest number of cases are China, Korea, Japan, United states, Germany, Iran and almost all the Asian countries.¹¹ Cases with the infection were more in the age group between 30 to 50 years in this study as was also the finding of Shrivastava et al²

CONCLUSION:

Dyspepsia is a common symptom for which patients seek relief. As the etiology varies very widely from functional causes to malignancy, it is imperative that a thorough evaluation of the patient is done. Upper gastrointestinal endoscopy and histopathological examination of the biopsies obtained are of vital importance in evaluation and facilitating treatment.

Acknowledgement:

The authors acknowledge the immense help received from the scholars whose articles are cited and included in the reference of this manuscript.

REFERENCES:

1. Nwokediuko SC, Okafor OC. Gastric mucosa in nonulcer dyspepsia: a histopathological study of Nigerian patients. *IJ Gastroenterol* 2007;5(2):1-6
2. Shrivastava UK, Gupta A, Gupta A, Bhatia A. Role of Helicobacter pylori in functional dyspepsia. *Indian J Surg* 2004;66:341-346.
3. Andrabi RUS, Ahad WA, Yousuff M, Dawood B, Mudasir M, Mushtaq S. Endoscopic findings in Persistent Dyspepsia in Secondary Care Hospital Setting in North Kashmir. *J Assoc Physicians India*. 2019 Sep;67(9):46-49
4. Simón Correa G, Cardona A, Tomás Correa GL, Correa AL., MD, García HI, Estrada S. Prevalence of helicobacter pylori and histopathological features in gastric biopsies from patients with dyspeptic symptoms at a referral center in Medellin. *2016 Asociaciones Colombianas de Gastroenterología, Endoscopia digestiva, Coloproctología y Hepatología*; 31(1):9-14
5. Khan N, Shabbir G, Zarif M, Ishaq M. Upper gastrointestinal endoscopic assessment of patients presenting with dyspepsia. *JPMI* 2007 VOL 21 NO. 03 : 212-216
6. Welén K, Faresjö A, Faresjö T. Functional dyspepsia affects women more than men in daily life: a case-control study in primary care. *Gen Med*. 2008 Mar;5(1):62-73.
7. Piotrowicz G, Stepień B, and Rydzewska G. Socio-demographic characteristics of patients with diagnosed functional dyspepsia Gastroenterology Sub-department, MSW Hospital, Gdansk, Poland. *Pubmed journal*; 2013;8(6):354-65.
8. Venkatarathnamma P, N, Anil Kumar Mannava, Ujjawal Kumar, Chethan, Reethesh R. P. Prevalence of Functional Dyspepsia in a Rural Medical College Hospital. *Journal of Evolution of Medical and Dental Sciences* 2014; Vol. 3, issue 08, February 24: 1934-1939
9. Aminde J, Dedino G, Ngwasiri C, Kingsley S, Ombaku, Cedric A, Mahop M, Aminde L. Helicobacter pylori infection among patients presenting with dyspepsia at a primary care setting in Cameroon: seroprevalence, five-year trend and predictors. *Pubmed journal*; 2019 Jan 8;19(1):30.
10. Hamrah M H, Hamrah M S, Mitsuro Kanda, Hamrah A E, Dahi A E, Homayoun F et al. Prevalence of Helicobacter Pylori Infection in Dyspeptic Patients in Andkhoy Afghanistan. *Pubmed journal* 2017; 18(11): 3123–3127. s;
11. Hooi J K Y, Lai W Y, Khoo Ng W, Michael M. Y., Suen Fox E., Peter T, David Y. M et al. Global Prevalence of Helicobacter pylori Infection: Systematic Review and Meta-Analysis. *Pubmed journals*; 2017 Aug;153(2):420-429.
12. Dawood MH, Emara MW. Histopathological Assessment of Dyspepsia in the Absence of Endoscopic Mucosal Lesions. *Euroasian Journal of Hepato-Gastroenterology*; 2016 Jul-Dec; 6(2): 97–102.
13. Harmon RC, Peura DA. Evaluation and management of dyspepsia. *Therapeutic advances in gastroenterology*. 2010; 3(2):87–98