Analysis of upper GI endoscopy findings in patients of dyspepsia at a tertiary care centre in Karnataka: A retrospective study

Dr. Amar DN and Dr. Aravind Naik

DOI: https://doi.org/10.33545/surgery.2019.v3.i2b.20

Abstract

**Background:** Increased incidence of persistent dyspepsia has led to more number of patients undergoing upper GI endoscopy which has proved to be a valuable diagnostic tool to reduce the morbidity. It can also help to identify and treat upper GI malignancies at the earliest.

**Methods:** Endoscopy database records of 200 consecutive patients of dyspepsia referred to the Department of General Surgery at our institute from January 2018 - January 2019 were analysed.

**Results:** With a positive yield of 95%, there was more prevalence of dyspepsia in males (68%) than females (32%). The prevalence of dyspepsia was high in 31-40 yrs (24%). There was a high incidence of Oesophagitis (40%), Gastritis (34%) and Duodenitis (20%). There was 2.94% incidence of oesophageal and 4.69% stomach malignancies.

**Conclusion:** Our study demonstrates high prevalence of dyspepsia in males, oesophagitis, gastritis and duodenitis which can be contributed to various factors like diet, climate and patient selection for the study.

**Keywords:** Retrospective analysis, dyspepsia, upper GI endoscopy, oesophagitis

**Introduction**

In the fast paced modern world, the lifestyle choices made by the younger generation has led to an overwhelming increase in the gastrointestinal disorders especially dyspepsia.

Dyspepsia is a poorly defined symptom complex of upper gastrointestinal tract. The symptoms usually last for decades with remissions and relapses which comprises of epigastric discomfort, bloating, belching, early satiety, anorexia, nausea, vomiting, heartburn and regurgitation [1]. Rome III criteria define dyspepsia as one or more of the following 3 symptoms for 3 months within the initial 6 months of onset of symptoms: 1) postprandial fullness, 2) early satiety and 3) epigastric pain. [2] Colonic symptoms like altered bowel habits are not included in the vast realm of dyspeptic symptoms.

The etiology of dyspepsia may be a) organic, b) functional, c) drug induced d) due to extraintestinal systemic diseases [3],

a) Organic dyspepsia: due to erosive oesophagitis, gastric erosions, acute/ chronic gastritis, gastric/duodenal ulcers, malignancy.

b) Functional dyspepsia: based on Rome IV criteria persisting dyspepsia for more than 3 months within the past 6 months without a possible organic cause of symptoms for dyspepsia [4]

c) Drug induced: like NSAIDS, antibiotics, steroids etc.

d) Extraintestinal systemic disorders: Endocrinological disorders like diabetes mellitus, thyroid disorders etc,

A detailed history can identify dyspepsia caused by drugs and systemic disorders. Organic causes of dyspepsia can be identified by upper gastrointestinal endoscopy which can be used as both diagnostic and a therapeutic tool. Upper GI scopy can also be used as a screening test to aid in the early diagnosis of benign and malignant lesions of the GIT which can reduce the morbidity and mortality in the health care setup. The current study was undertaken to study the disease pattern yields at a tertiary care centre in Karnataka which may give a useful insight into evolving trends of GI malignancies. Although a commonly available tool, caution should be excised regarding unnecessary over usage of the upper GI scopy as it increases the burden on the health care costs.
Material and methods
A retrospective analysis of endoscopy database records was done of 200 consecutive patients who were referred to the Department of General Surgery, Srinivas Institute of Medical Sciences and research centre, Mukka, Mangalore for upper GI Endoscopy for evaluation of dyspepsia from January 2018 to January 2019 after obtaining institutional ethical clearance.

Inclusion criteria:
1. Age more than 15 years
2. Both sexes
3. Persistent symptoms of dyspepsia after 4-8 weeks of proton pump inhibitor therapy.

Exclusion criteria
1. Age less than 15 years
2. Patients with acute GI conditions
3. Patients already diagnosed with Malignancies/terminal illnesses.

The above data of upper GI endoscopy was tabulated and was subjected to statistical tests.

Results

Table 1: Prevalence of dyspepsia among sexes

| Dyspepsia seen in | No. | Percentage |
|-------------------|-----|------------|
| Males             | 136 | 68         |
| Females           | 64  | 32         |
| Total             | 200 |            |

In our study dyspepsia was more prevalent in males (68%) than females (32%).

Table 2: Age distribution of Dyspepsia

| Age (years) | No. | % |
|-------------|-----|---|
| Less than 20| 6   | 3 |
| 21-30       | 35  | 17.5 |
| 31-40       | 48  | 24 |
| 41-50       | 45  | 22.5 |
| 51-60       | 44  | 22 |
| More than 60| 22  | 11 |
| Total       | 200 |    |

In our study, dyspepsia was more prevalent in age group of 31-40 years (24%) followed by 41-50 yrs (22.5%) and 51-60 yrs (22%).

Table 3: Disease pattern seen in upper GI endoscopy.

| Group                      | Diagnosis                  | Male | %   | Female | %    |
|----------------------------|----------------------------|------|------|--------|------|
| Normal                     | Normal                     | 4    | 2.94 | 2      | 3.13 |
| Malignancy                 | Oesophageal Ca             | 4    | 2.94 | 0      | 0    |
|                            | Og Junction Ca             | 0    | 0    | 0      | 0    |
|                            | Antral Ca                  | 0    | 0    | 0      | 0    |
|                            | Body of Stomach Ca        | 0    | 0    | 3      | 4.69 |
|                            | Ca Pylorus                | 3    | 2.20 | 0      | 0    |
| Duodenal Diseases          | Duodenitis                 | 31   | 22.79| 9      | 14.06|
|                            | Duodenal Ulcer            | 9    | 6.62 | 0      | 0    |
| Oesophageal Diseases       | Lax Les-Oesophagitis      | 4    | 2.94 | 3      | 4.69 |
|                            | Candidiasis                | 8    | 5.88 | 2      | 3.13 |
|                            | Hiatus Hernia             | 9    | 6.62 | 6      | 9.38 |
|                            | Varices                   | 5    | 3.68 | 0      | 0    |
|                            | Barret's Oesophagus       | 2    | 1.47 | 2      | 3.13 |
|                            | Reflux Oesophagitis       | 47   | 34.59| 33     | 51.56|
| Mallory Weiss Syndrome     |                            | 3    | 2.20 | 0      | 0    |
| Stomach/Gastric Diseases   | Pan Gastritis             | 34   | 25   | 22     | 34.38|
|                            | Antral Erosion            | 2    | 1.47 | 4      | 6.25 |
|                            | Antral Ulcer              | 2    | 1.47 | 2      | 3.13 |
|                            | Gastric Ulcer             | 4    | 2.94 | 2      | 3.13 |
|                            | Fundal Gastritis          | 6    | 4.41 | 0      | 0    |
|                            | Antral Gastritis          | 51   | 37.5 | 16     | 24   |
|                            | Body Gastritis            | 4    | 2.94 | 1      | 1.56 |
|                            | Erosive Gastritis         | 3    | 2.2  | 1      | 1.56 |
| Total Findings             |                            | 231  | 108  |        |      |
| Total Patients             |                            | 136  | 64   |        |      |

P value: 3.55
Discussion

Upper gastrointestinal diseases are leading causes of morbidity and mortality worldwide. They affect patients’ quality of life, cause a significant reduction in work productivity and increased economic burden. Upper GI endoscopy is a cost-effective safe procedure which can gain necessary information about the upper gastrointestinal disorders especially when an organic lesion in the upper GI tract is suspected.

In the present study, there was a high positive yield of 95% in upper GI endoscopy in par with study done by Padma S et al. (94%) [10]. The prevalence of dyspepsia in males (68%), females (32%) of the present study were found similar to other studies.

Table 3: Comparison of prevalence of dyspepsia among sexes with other studies

| Study                          | Males % | Females % |
|--------------------------------|---------|-----------|
| T Babu Anthony et al. [11]     | 61.4    | 38.6      |
| Padma S et al. [10]            | 61.78   | 38.21     |
| Elhaadi et al. [5]             | 43.6    | 56.4      |
| Javali et al. [12]             | 61.6    | 28.4      |
| Present study                  | 68      | 32        |

In our present study, the prevalence of dyspepsia was high in 31-40 yrs (24%) followed by 41-50 yrs (22.5%). This was found in par with T Babu Anthony et al. 31-40 yrs (26.5%) 41-50 yrs (22.7%) and Padma et al.

The incidence of malignancy was found similar to the following studies.

Table 4: Comparison of incidence of malignancy with other studies

| Study                          | Oesophageal carcinoma% | Stomach carcinoma% |
|--------------------------------|------------------------|--------------------|
| Javali et al. [12]             | 4.5                    | 4.6                |
| T Babu Anthony et al. [11]     | 0.7                    | 2.3                |
| Khan Y et al. [13]             | 3.7                    | 4.6                |
| Present study                  | 2.94                   | 4.69               |

The prevalence of oesophagitis was high compared to the other studies whereas gastritis (Pan and Antral) was in par with other studies. The prevalence of Duodenitis was in par with T Babu Anthony et al.

Table 5: Comparison of most common Upper GI Lesions with other studies

| Study                          | Reflux oesophagitis% | Gastritis% | Duodenitis % |
|--------------------------------|----------------------|------------|--------------|
| Javali et al. [12]             | 6.8                  | 39.3       | 6.16         |
| T Babu Anthony et al. [11]     | 16.1                 | 51         | 22           |
| Padma et al. [10]              | 8.1                  | 44.1       | 2.1          |
| Present study                  | 40                   | 34         | 20           |

The high incidence of reflux oesophagitis and increasing incidence of gastritis and duodenitis is probably due to dietary factors and hot and humid climate of coastal region where the present study is undertaken.

Conclusion

Dyspepsia is becoming an increasing cause of morbidity in India and across the world. Upper GI endoscopy plays a vital role in establishing diagnosis and aid in suitable treatment of the same.
Our study demonstrates high prevalence of dyspepsia in males compared to females. There is a higher prevalence of oesophagitis, gastritis and duodenitis when compared to the other studies which can be contributed to various factors like diet, climate and patient selection for the study. Upper GI endoscopy also plays a crucial role in diagnosing and treating Upper GI cancers early, thus reducing morbidity and mortality of the same.

References
1. The role of endoscopy in dyspepsia. ASGE Standards of practice committee. Gastrointestinal Endoscopy. 2015; 82(2).
2. Tack J, Talley NJ. Functional dyspepsia-symptoms, definitions and validity of the Rome III criteria. Nat Rev Gastroenterol Hepatol 2013; 10:134-41.
3. Desai HG. Dyspepsia. Editorial, Supplement to Japi. march 2012, 60.
4. Stanghellini V, Talley NJ, Chan F et al. Rome IV – Gastroduodenal Disorders. Gastroenterology 2016; ii: S0016-5085(16)00177-3.
5. Elhadi AA, Mirghani HO, Merghani TH, Mohammed OS, Eltoum HA. Pattern of Endoscopic Findings of Upper Gastrointestinal Tract in Omdurman Teaching Hospital, Sudan. Sudan JMS. 2014; 9(2).
6. Agbakwuru EA, Fatuji AO, Ndububa DA, Alatise OI, Arigbabu OA, Akinola DO. Pattern and validity of clinical diagnosis of upper gastrointestinal diseases in south-west Nigeria. Afr Health Sci. 2006; 6(2):98-103.
7. Al-Humayed SM, Mohamed-Elbagir AK, AlWabel AA, Argobi YA. The Changing Pattern of Upper Gastro-Intestinal Lesions in Southern Saudi Arabia: An Endoscopic Study. Saudi J Gastroenterol 2010; 16(1):35-37.
8. Alquorain A, Satti MB, Alhamdan A, Alghassab G, Alfrieh H, Algindan Y. Pattern of upper gastrointestinal disease in the eastern province of Saudi Arabia: Endoscopic evaluation of 2,982 patients. Trop Geogr Med. 1991; 43(1-2):203-8.
9. Lodeny H, Rana F, Mutuma GZ, Kabanga JM, Kuria JK, Okoth FA. Patterns of upper gastrointestinal diseases based on endoscopy in the period 1998-2001. University of Nairobi Digital Repository, 2005.
10. Padma S, Murugan R. Int Surg J. 2018; 5(3):965-970.
11. Antony B, Vijayasarathi S. Trends and patterns of diagnosis by Upper GI Endoscopy in Dyspeptic patients: A retrospective study. IAIM. 2016; 3(8):132-9.
12. Javali S, Madan M, Harendrakumar ML, Mahesh MS. Role of endoscopy in evaluating upper gastrointestinal tract lesions in rural population. Journal of Digestive Endoscopy. 2015; 6(2):59.
13. Khan Y, Mohanty SK, Kumar H, Pandey S. Upper gastrointestinal endoscopic findings in patients with dyspepsia: experience at cims, bilaspur, chhattisgarh, India. IOSR Journal of Dental and Medical Sciences. 2014; 13(5):08-12.