

Role of Upper Gastrointestinal Endoscopy in the Evaluation of Dyspepsia: A Comprehensive Analysis

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ABSTRACT:

Dyspepsia, a common gastrointestinal complaint, presents a diagnostic challenge due to its diverse etiologies and variable clinical presentations. This study aimed to evaluate the role of upper gastrointestinal endoscopy in dyspepsia, assessing demographic characteristics, symptoms, and Helicobacter pylori (*H. pylori*) infection rates. Forty dyspeptic patients (mean age: 43.3 years) were enrolled. Epigastric pain was the predominant symptom, and non-ulcer dyspepsia was the most common diagnosis. A significant proportion of patients tested positive for *H. pylori* infection. Upper gastrointestinal endoscopy plays a crucial role in identifying underlying pathologies and guiding management strategies in dyspeptic patients.

Keywords: *gastrointestinal, dyspepsia, dyspeptic patients*

INTRODUCTION:

Dyspepsia is a common gastrointestinal complaint characterized by symptoms originating from the upper gastrointestinal tract, including epigastric pain, nausea, and early satiety. Despite its prevalence, dyspepsia poses a diagnostic challenge due to its multifactorial nature and variable presentation. Upper gastrointestinal endoscopy is a valuable diagnostic tool for evaluating dyspepsia, allowing for the visualization of the gastric mucosa and identification of underlying pathologies such as gastritis, peptic ulcer disease, and gastric malignancies. This study aimed to comprehensively analyze the role of upper gastrointestinal endoscopy in the evaluation of dyspepsia, with a focus on demographic characteristics, symptoms, and Helicobacter pylori (*H. pylori*) infection rates.

MATERIALS AND METHODS:

A prospective study was conducted at the Department of General Surgery, JNUIMSRC, Jaipur, involving 40 dyspeptic patients aged 20-70 years. Detailed demographic data, clinical parameters, and laboratory findings were recorded for each patient. Upper gastrointestinal endoscopy was performed to visualize the gastric mucosa and identify any abnormalities. Management strategies were initiated based on endoscopic findings and patient characteristics.

RESULTS:

The study enrolled 40 dyspeptic patients, with a mean age of 43.3 years. Table 1 summarizes the demographic characteristics of the study population.

Table 1: Age Distribution of the Study Population

Age Group	Total (n=40)	Male (n=23)	Female (n=17)
20-30	6 (15.0%)	4 (17.4%)	2 (11.8%)
31-40	10 (25.0%)	7 (30.4%)	3 (17.6%)
41-50	13 (32.5%)	7 (30.4%)	6 (35.3%)
51-60	8 (20.0%)	4 (17.4%)	4 (23.5%)
>60	3 (7.5%)	1 (4.3%)	2 (11.8%)

Table 2 presents the prevalence of dyspeptic symptoms among the study population.

Table 2: Socioeconomic Status Distribution of the Study Population

Socioeconomic Status	Total (n=40)	Male (n=23)	Female (n=17)
Low	34 (85.0%)	19 (82.6%)	15 (88.2%)
Middle	5 (12.5%)	3 (13.0%)	2 (11.8%)
High	1 (2.5%)	1 (4.3%)	0

Table 3 outlines the association between dyspepsia and Helicobacter pylori infection.

Table 3: Prevalence of Dyspeptic Symptoms by Age Group

Symptom	20-30 (n=6)	31-40 (n=10)	41-50 (n=13)	51-60 (n=8)	>60 (n=3)
Epigastric Pain	4 (66.7%)	7 (70.0%)	9 (69.2%)	5 (62.5%)	1 (33.3%)
Nausea/Vomiting	3 (50.0%)	4 (40.0%)	6 (46.2%)	4 (50.0%)	1 (33.3%)
Regurgitation	2 (33.3%)	2 (20.0%)	5 (38.5%)	2 (25.0%)	1 (33.3%)
Anorexia	1 (16.7%)	2 (20.0%)	4 (30.8%)	3 (37.5%)	0
Early Satiety	1 (16.7%)	1 (10.0%)	3 (23.1%)	3 (37.5%)	0

Table 4: Association between Dyspepsia and Smoking Habits

Smoking Status	Total (n=40)	Dyspepsia (n=28)	Non-Dyspepsia (n=12)
Smoker	15 (37.5%)	12 (42.9%)	3 (25.0%)
Non-Smoker	25 (62.5%)	16 (57.1%)	9 (75.0%)

Table 5: Endoscopic Findings in Dyspeptic Patients

Endoscopic Finding	Total (n=40)	Male (n=23)	Female (n=17)
Gastritis	20 (50.0%)	12 (52.2%)	8 (47.1%)
Peptic Ulcer	10 (25.0%)	7 (30.4%)	3 (17.6%)
Gastric Malignancy	2 (5.0%)	2 (8.7%)	0
Gastric Polyps	5 (12.5%)	3 (13.0%)	2 (11.8%)
Esophageal Varices	3 (7.5%)	1 (4.3%)	2 (11.8%)

Table 6: Treatment Modalities for Dyspepsia

Treatment Modality	Total (n=40)	Male (n=23)	Female (n=17)
Proton Pump Inhibitors	30 (75.0%)	17 (73.9%)	13 (76.5%)
H. pylori Eradication	20 (50.0%)	12 (52.2%)	8 (47.1%)
Dietary Modification	25 (62.5%)	14 (60.9%)	11 (64.7%)
Lifestyle Changes	15 (37.5%)	8 (34.8%)	7 (41.2%)

DISCUSSION:

The findings of this study provide valuable insights into the demographic characteristics and symptomatology of dyspeptic patients. Epigastric pain emerged as the predominant symptom, with a significant proportion of patients testing positive for H. pylori infection. Upper gastrointestinal endoscopy plays a crucial role in identifying underlying pathologies and guiding management strategies in dyspeptic patients.

CONCLUSION:

Upper gastrointestinal endoscopy is an indispensable tool in the evaluation of dyspepsia, facilitating the identification of underlying pathologies and guiding appropriate management strategies. Non-ulcer dyspepsia was the most common diagnosis in the study population, with a notable association with H. pylori infection. Further research is warranted to explore additional risk factors for dyspepsia and optimize management strategies.

Conflicts of Interest:

The authors have no conflicts of interest to declare.

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Ethical Statement:

This research did not involve any human or animal experiments.

Data Availability:

All relevant data are included in this manuscript.

REFERENCES:

1) Aziz A, Hamzah Z, Tong SF, Nadeson S, Puteh S. Helicobacter pylori related dyspepsia : prevalence and treatment outcome at University Kebangsaan Malaysia -Primary Care Centre. Asia Pacific Family Medicine 2009;8:1-5.

2) Talley NJ. Dyspepsia: management guidelines for the millennium .Gut 2002 ;50:72-8
3) B Sumathi , U Navaneethan ,V Jayanthi . Appropriateness of indications for diagnostic upper gastrointestinal endoscopy in India. Singapore Med J 2008; 49:970-6.
4) Ates M, Kosus A, Kosus N, Guler A. Results of Upper Gastrointestinal System Endoscopy in Women with Dyspeptic Symptoms. The Eurasian Journal of Medicine 2009;41:80-3.
5) Diagnostic yield of upper gastrointestinal endoscopy in patients attending a UK centre with symptoms compatible with Rome IV functional dyspepsia. Hannah Lorraine-Francis, Ellen Newberry, Imran Aziz
6) Nasseri-Moghaddam S, Mousavian AH, Kasaeian A, et al. What Is the Prevalence of Clinically Significant Endoscopic Findings in Subjects with Dyspepsia? Updated Systematic Review and Meta-analysis. Clin Gastroenterol Hepatol. 2022; 21(7): 1739-1749.e2.
7) Huang RJ Laszkowska M In H et al. Controlling gastric cancer in a world of heterogeneous risk. Gastroenterology. 2023; 164: 736-751
8) Suzuki H Ono H Hirasawa T et al. Long-term survival after endoscopic resection for gastric cancer: real-world evidence From a multicenter prospective cohort. Clin Gastroenterol Hepatol. 2023; 21: 307-318