

Evaluation of Endoscopic Findings Around the Gastroesophageal Junction In Patients with Symptomatic Gastroesophageal Reflux Disease: An Institutional Based Study

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ABSTRACT

Background: Gastroesophageal reflux disease (GERD) is characterized by symptoms or mucosal injury resulting from the abnormal backflow of gastric contents into the esophagus or further, into the oral cavity (including the larynx) or lungs. Hence; the present study was conducted to evaluate endoscopic findings around the gastroesophageal junction in patients with symptomatic gastroesophageal reflux disease.

Materials & Methods: A total of 100 patients with presence of symptoms of GERD for a minimum of three months were enrolled. All patients underwent an endoscopic assessment of the esophagus, gastroesophageal junction (GEJ), stomach, and duodenum. During retroflexion in the fundus, if a distinct ridge of tissue appeared to grasp the endoscope's shaft, it was classified as Grade I. A prominent ridge that opened and closed with respiration was classified as Grade II. The absence of a tissue ridge was designated as Grade III, while a wide-open GEJ, through which the esophageal mucosa was visible, was classified as Grade IV. The collected data were documented in a Microsoft Excel spreadsheet and analyzed statistically using SPSS software.

Results: A total of 100 subjects were evaluated. The mean age of patients was 48.3 years. 61 percent of the patients were males while the remaining were females. Endoscopic findings

showed the presence of Hiatus hernia, Columnar-lined esophagus and Reflux esophagitis in 18 percent, 10 percent and 15 percent of the patients respectively. The commonest GEFV morphology was grade 2.

Conclusion: A significant number of patients exhibiting symptoms of gastroesophageal reflux disease (GERD) present with atypical endoscopic findings at the gastroesophageal junction.


Key words: Endoscopic, Gastroesophageal Reflux Disease.

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INTRODUCTION

Gastroesophageal reflux disease (GERD) is characterized by symptoms or mucosal injury resulting from the abnormal backflow of gastric contents into the esophagus or further, into the oral cavity (including the larynx) or lungs. GERD can be categorized into two types: non-erosive reflux disease (NERD) and erosive reflux disease (ERD), depending on whether esophageal mucosal damage is observed during endoscopic examination. This document aims to present a concise overview of the epidemiology, clinical manifestations, and complications associated with GERD, along with a detailed examination of contemporary diagnostic and management strategies.^{1,2} GERD is frequently encountered by both primary care providers and gastroenterologists. For instance, a systematic review conducted

in 2005 indicated that the prevalence of GERD, defined by the occurrence of heartburn and/or acid regurgitation at least weekly, ranges from 10% to 20% in Western populations, while it is reported to be below 5% in Asian populations. Additionally, there is a noted trend of higher prevalence in North America compared to Europe, as well as a greater prevalence in Northern Europe relative to Southern Europe.^{3,4} The accuracy of symptomatology and esophagogastroduodenoscopy (EGD) in the diagnosis of proven GERD was evaluated in the past by Tefera L et al. Patients' symptoms were evaluated during their initial consultation using a standardized scoring system that ranges from grades 0 to 3, with grade 3 indicating the most severe symptoms. The findings from esophagogastroduodenoscopy (EGD) were categorized

based on the modified Savary-Miller scale. Esophageal acid exposure was assessed through 24-hour pH monitoring, where a positive composite score was interpreted as indicative of gastroesophageal reflux disease (GERD). Out of the total cohort, 57 patients exhibited positive pH scores, while 43 patients had negative scores. The presence of grade 2 or 3 heartburn and/or regurgitation, in conjunction with erosive esophagitis or Barrett's esophagus observed during EGD, demonstrated a specificity of 97 percent and a sensitivity of 64 percent for the accurate diagnosis of GERD.⁵

Hence; the present study was conducted to evaluate endoscopic findings around the gastroesophageal junction in patients with symptomatic gastroesophageal reflux disease.

MATERIALS & METHODS

The present study was conducted to evaluate endoscopic findings around the gastroesophageal junction in patients with symptomatic gastroesophageal reflux disease. A total of 100 patients with presence of symptoms of GERD for a minimum of three months were enrolled. All patients underwent an endoscopic assessment of the esophagus, gastroesophageal junction (GEJ), stomach, and duodenum. The classification of reflux esophagitis was performed in accordance with the Los Angeles classification.³ A sliding hiatus hernia (HH) was identified when the distance

between the squamocolumnar junction and the diaphragmatic impression exceeded 2 cm, as measured by the endoscope's hash marks at the incisors. The presence of a columnar-lined esophagus (CLE) was established when the squamocolumnar junction was located above the gastric rugal folds. The gastroesophageal flap valve (GEFV) was defined and categorized based on the criteria set forth by Hill et al.² In summary, during retroflexion in the fundus, if a distinct ridge of tissue appeared to grasp the endoscope's shaft, it was classified as Grade I. A prominent ridge that opened and closed with respiration was classified as Grade II. The absence of a tissue ridge was designated as Grade III, while a wide-open GEJ, through which the esophageal mucosa was visible, was classified as Grade IV. The collected data were documented in a Microsoft Excel spreadsheet and analyzed statistically using SPSS software.

RESULTS

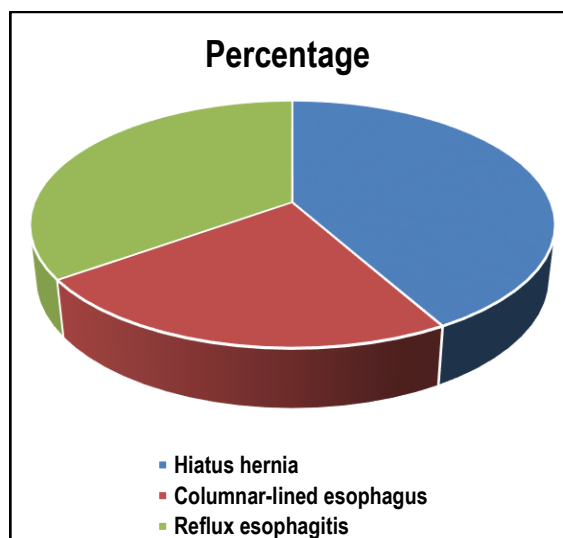
A total of 100 subjects were evaluated. The mean age of the patients was 48.3 years. 61 percent of the patients were males while the remaining were females. Endoscopic findings showed presence of Hiatus hernia, Columnar-lined esophagus and Reflux esophagitis in 18 percent, 10 percent and 15 percent of the patients respectively. The commonest GEFV morphology was grade 2.

Table 1: Demographic data

Variable	Number	Percentage
Mean age (years)		48.3 years
Males	61	61
Females	39	39
Rural residence	29	29
Urban residence	71	71

Table 2: Endoscopic findings

Endoscopic findings	Number	Percentage
Hiatus hernia	18	18
Columnar-lined esophagus	10	10
Reflux esophagitis	15	15



Graph 1: Endoscopic findings

DISCUSSION

Gastroesophageal reflux disease (GERD) represents a clinical condition characterized by the excessive backflow of acidic gastric contents into the esophagus, leading to varying degrees of symptomatic irritation or damage to the esophageal mucosa. Common manifestations of GERD include heartburn, regurgitation, and dysphagia. GERD is a prevalent condition, with population-based surveys indicating that 44% of individuals report experiencing heartburn on a monthly basis, while 19.8% experience heartburn or acid regurgitation at least once a week. The antireflux mechanism is primarily composed of the lower esophageal sphincter (LES) and the crural portion of the diaphragm. The effective clearance of refluxed material is influenced by esophageal peristalsis, the presence of saliva (with a pH greater than 6), and gravitational forces. Consequently, various factors contribute to the development of GERD, including a dysfunctional LES, the presence of a hiatal hernia, compromised

esophageal peristalsis, delayed gastric emptying, excessive gastric acid production, and bile reflux.⁶⁻⁹

A total of 100 subjects were evaluated. Mean age of the patients was 48.3 years. 61 percent of the patients were males while the remaining were females. Endoscopic findings showed presence of Hiatus hernia, Columnar-lined esophagus and Reflux esophagitis in 18 percent, 10 percent and 15 percent of the patients respectively. The commonest GEFV morphology was grade 2. Johnsson F et al conducted a study involving two hundred and twenty patients exhibiting symptoms indicative of pathological gastroesophageal reflux, aiming to clarify the diagnostic efficacy of both symptoms and endoscopic observations in identifying reflux disease, as assessed through 24-hour ambulatory pH monitoring. The daily incidence of heartburn and acid regurgitation demonstrated positive predictive values of 59% and 66%, respectively. pH monitoring revealed pathological reflux in 75% of patients who presented with esophageal mucosal erosions. However, endoscopic erythema in the distal esophagus was only able to predict reflux disease in 53% of cases. Notably, symptom tracking during the 24-hour pH monitoring indicated that approximately half of the symptomatic episodes reported by patients with pathological reflux occurred within five minutes of a reflux event, whereas this figure was below 20% for those with normal pH monitoring results. The findings suggested that relying solely on patient history for diagnosing gastroesophageal reflux disease is challenging, that endoscopic erythema has a weak correlation with pathological reflux, and that reflux disease can exist even when endoscopic evaluations yield normal results.¹⁰ Ruigómez A et al. examined the characteristics of patients who were newly diagnosed with gastroesophageal reflux disease (GERD) and subsequently referred for endoscopic evaluation, as well as the factors correlated with the endoscopic findings in the esophagus. Among the 7,159 patients diagnosed with GERD, 805 (11%) underwent endoscopy shortly after their initial consultation. Notably, 73% of these patients exhibited endoscopic evidence of esophageal damage. The likelihood of observing esophageal endoscopic findings was significantly higher in male patients, older individuals, and those with a prior history of peptic ulcer disease or gastrointestinal bleeding. Conversely, the use of acid-suppressive medications, especially proton pump inhibitors, was found to be inversely related to the presence of erosive endoscopic findings. Furthermore, patients displaying erosive findings were more inclined to initiate a new treatment regimen involving proton pump inhibitors. In summary, a relatively small proportion of patients are referred for endoscopy shortly after their first GERD consultation, yet the majority of these patients present with esophageal abnormalities. Male sex, advancing age, and a history of gastrointestinal bleeding were identified as risk factors for esophageal complications.¹¹

CONCLUSION

A significant number of patients exhibiting symptoms of gastroesophageal reflux disease (GERD) present with atypical endoscopic findings at the gastroesophageal junction.

REFERENCES

1. Katz PO, Gerson LB, Vela MF. Guidelines for the diagnosis and management of gastroesophageal reflux disease. *Am J Gastroenterol.* 2013;108:308–328;
2. Hill LD, Kozarek RA, Kraemer SJ, et al. The gastroesophageal flap valve: in vitro and in vivo observations. *Gastrointest Endosc.* 1996;44:541–7
3. Armstrong D, Bennett JR, Blum AL, et al. The endoscopic assessment of esophagitis: a progress report on observer agreement. *Gastroenterology.* 1996;111:85–92.
4. DeVault KR, Castell DO. Updated guidelines for the diagnosis and treatment of gastroesophageal reflux disease. *Am J Gastroenterol.* 2005;100:190–200.
5. Tefera L, Fein M, Ritter MP, Bremner CG, Crookes PF, Peters JH, Hagen JA, DeMeester TR. Can the combination of symptoms and endoscopy confirm the presence of gastroesophageal reflux disease? *Am Surg.* 1997 Oct;63(10):933-6
6. Locke G R III, Talley N J, Fett S L, Zinsmeister A R, Melton J III. Prevalence and clinical spectrum of gastroesophageal reflux: A population-based study in Olmsted County, Minnesota. *Gastroenterology.* 1997;112:1448–56.
7. Richter J. Do we know the cause of reflux disease? *Eur J Gastroenterol Hepatol.* 1999;11(Suppl 1):S3–9.
8. Fein M, Ritter M P, DeMeester T R. et al. Role of the lower esophageal sphincter and hiatal hernia in the pathogenesis of gastroesophageal reflux disease. *J Gastrointest Surg.* 1999;3:406–10.
9. O'Sullivan G C, DeMeester T R, Joelsson B E, Smith R B, Blough R R, Johnson L F, Skinner D B. Interaction of lower esophageal sphincter pressure and length of sphincter in the abdomen as determinants of gastroesophageal competence. *Am J Surg.* 1982;143:40–7.
10. Johnsson F, Joelsson B, Gudmundsson K, Greiff L. Symptoms and endoscopic findings in the diagnosis of gastroesophageal reflux disease. *Scand J Gastroenterol.* 1987 Aug;22(6):714-8.
11. Ruigómez A, Rodríguez LA, Wallander MA, Johansson S, Dent J. Endoscopic findings in a cohort of newly diagnosed gastroesophageal reflux disease patients registered in a UK primary care database. *Dis Esophagus.* 2007;20(6):504-9.

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