

A Study on the Histopathological Spectrum of Gastrointestinal Tract Lesions and Their Correlation with Endoscopic Findings

Rakhi Kumari¹, Vishal Kumar², Pradeep Kumar Singh³

¹Senior Resident, Department of Pathology, Government Medical College Bettiah, West Champaran, Bihar, India.

²Assistant Professor, Department of Pathology, ICARE Institute of Medical Sciences & Research, Haldia, West Bengal, India.

³Associate Professor, Department of Pathology, Government Medical College Bettiah, West Champaran, Bihar, India.

Received: 02-01-2026 / Revised: 20-02-2026 / Accepted: 14-03-2026

Corresponding Author: Dr. Vishal Kumar

Conflict of interest: Nil

Abstract:

Background: Gastrointestinal tract (GIT) diseases range from inflammatory conditions to malignant neoplasms and represent a major health burden worldwide. Endoscopy with biopsy plays a crucial role in the diagnosis of GIT lesions, while histopathological examination provides definitive confirmation and characterization of these lesions.

Aim: To study the histopathological spectrum of gastrointestinal tract lesions and evaluate their correlation with endoscopic findings.

Methodology: A retrospective observational study was conducted over six months in the Department of Pathology, Government Medical College Bettiah, Bihar. A total of 64 gastrointestinal biopsy specimens obtained during endoscopy were analyzed. Clinical data, endoscopic findings, and histopathological diagnoses were reviewed and correlated. Tissue samples were processed using routine histopathological techniques and analyzed using descriptive statistics and Chi-square test.

Results: The majority of patients were aged 40–59 years (40.63%) with male predominance (65.63%). The stomach was the most commonly involved site (53.13%), followed by the duodenum (31.25%) and esophagus (15.63%). Chronic gastritis (31.25%) was the most frequent lesion, followed by duodenitis (18.75%) and chronic active gastritis with *H. pylori* (12.5%). Adenocarcinoma accounted for 10.94% of cases. Overall concordance between endoscopic and histopathological findings was 76.56% with moderate agreement ($\kappa = 0.46$).

Conclusion: Endoscopy shows good correlation with histopathology; however, histopathological examination remains essential for definitive diagnosis and accurate characterization of gastrointestinal lesions.

Keywords: Gastrointestinal tract, Endoscopy, Histopathology, Gastritis, Duodenitis, Adenocarcinoma, Biopsy.

DOI: 10.25258/ijpqa.17.3.34

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

Gastrointestinal tract (GIT) is classified as one of the most complex organ systems of the human body and it is the one that is involved in digestion, nutrients absorption, and the elimination of waste products. GIT disorder is a major concern to the health care system of the world given its prevalence and the broad spectrum of evidence of the condition [1]. GIT disorders can range mild inflammatory conditions to severe malignant neoplasms and early diagnosis is necessary to manage the condition and treat the patient better. Gastrointestinal endoscopy with biopsy is one of the many diagnostic modalities that have been employed in the diagnosis of GIT disorders; it has become an invaluable instrument in the diagnosis of the GIT disorders. This is because gastrointestinal tract (GIT) endoscopy together with the usage

of biopsy is very critical in the diagnosis and treatment of different diseases of the GIT such as malignancies and inflammatory diseases [2]. This diagnostic method enables clinicians to examine directly the mucosal lining of the gastrointestinal tract and to take tissue samples of suspicious lesions, which enhances the diagnostic accuracy of the technique and prompt training of intervention.

Endoscopy is especially useful when assessing the patient with upper gastrointestinal symptoms like dyspepsia, gastroesophageal reflux disease (GERD), dysphagia, and unexplained gastrointestinal bleeding. The process is especially essential in the detection of dyspepsia, gastroesophageal reflux disease (GERD), Barretts esophagus, and esophageal and

stomach carcinomas. Clinicians are able to direct abnormalities in the mucosa (ulcer, erosion, nodules, polyps, or suspicious masses) through endoscopic biopsy. With the help of endoscopic biopsy, it is possible to directly view and select suspicious areas and to detect and effectively diagnose pathological conditions at the earliest stage. Histopathology of biopsy material sampled in endoscopy is a critical aspect of understanding the nature and the extent of GIT diseases and as such influence's clinical decision-making and treatment procedures. The microscopic examination of biopsy samples can be used to differentiate inflammatory, infectious, premalignant, and malignant lesions and has been found to be an essential part of making a final diagnosis.

The past few years have witnessed an increased capability of detecting gastrointestinal diseases during an early stage because of the development of diagnostic technologies. Liquid biopsies are also becoming a potential candidate in early cancer detection and monitoring, which improves patient outcomes in GIT cancers [3]. Despite conventional tissue biopsy being the gold standard in diagnosis, these are new emerging molecular methods, which could be used in complement with other conventional histopathology techniques, in order to detect circulating tumor DNA or other biomarkers that correlate with gastrointestinal malignancies. The increasing significance of the combination of endoscopic observations with the histopathological and molecular diagnostics to obtain the complete picture of gastrointestinal disorders is marked by such developments.

GI tract offers a wide array of pathological conditions including benign inflammatory lesions to malignant tumors. Two of them include dyspepsia and GERD, which are some of the frequent clinical signs that suggest upper gastrointestinal endoscopy. GIT is characterized by a continuum of pathologic processes as benign inflammatory changes and malignant neoplasms, dyspepsia, and GERD are the typical manifestations of upper GIT endoscopy [4]. Dyspepsia is a typical clinical presentation that is defined by upper abdominal pain, bloating, early fullness, nausea, or stomachache. Dyspepsia may be an upper abdominal pain or discomfort that may indicate a number of underlying conditions, such as peptic ulcer disease, gastritis, or gastric cancer [5]. Due to the possible presence of underlying serious pathology, endoscopic assessment is frequently suggested, especially when the dyspeptic symptoms are accompanied by alarm symptoms, including weight loss, anemia, vomiting, or gastrointestinal bloodshed.

Conversely, gastroesophageal reflux disease (GERD) is a chronic disorder, which occurs due to the retrograde movement of gastric content in the esophagus resulting in the mucosal irritation and inflammation. GERD entails the stomach acid that flows back to the esophagus causing heartburn and

regurgitation, which may develop to Barretts esophagus and elevate the chances of developing esophagus cancer of adenocarcinoma. Persistent exposure of esophageal mucosa to gastric acid can lead to metaplastic alterations referred to as Barretts esophagus which is said to be a premalignant pathway and can transform into esophageal adenocarcinoma. Thus, it is important to diagnose and monitor the changes in time by using endoscopic inspection and histopathological analysis to prevent malignant transformation.

Endoscopy has played a very important role in enhancing the capacities to detect mucosal pathology and direct biopsy sampling. Endoscopic methods are important in diagnosis and management of such conditions where they help in the early identification of maladies and in effective management of the patients [6]. Nevertheless, the endoscopic visual observations do not necessarily reflect the histopathological alterations that they represent. Some lesions which are innocent looking on endoscopy can turn out to be dysplastic or malignant on microscopic analysis, and a few inflammatory lesions may resemble neoplastic lesions on endoscopy. Thus, histopathological confirmation will be necessary to make a correct diagnosis and development of treatment.

Esophageal and gastric cancers remain significant issues of global health concern because of their high morbidity and mortality rates. Esophageal and gastric carcinoma are major health problems of much morbidity and mortality rates worldwide [7]. Early diagnosis of these cancers is the most important in enhancing patient outcomes. Esophageal carcinoma is normally in the form of squamous cell carcinoma or adenocarcinoma with its unique histopathological type and etiological determinants [8]. Tobacco usage, alcohol use, and dietary deficiency are often identified as the risk factors of squamous cell carcinoma, and chronic GERD and Barrett esophagus are commonly cited as the risk factors of adenocarcinoma. Histopathological examination is vital in determination of the type of tumor, the grade of the tumor, and whether there is invasion or metastasis.

On the same note, gastric carcinoma is among the most common cause of cancer-related deaths in the world. Gastric carcinoma usually appears in its advanced form hence the need to have thorough histopathological evaluation to identify its type, grade and stage which is very important in formulating relevant therapeutic measures [9]. The nonspecific abdominal pain, weight loss, nausea, or anemia through which gastric cancer can manifest can delay its diagnosis often. As a result of this, a premature endoscopic examination with biopsy is necessary to identify premalignant lesions like chronic atrophic gastritis, intestinal meta-plasia and dysplasia which can culminate into carcinoma given a lack of treatment.

The use of endoscopy and histopathological examination has remained the gold standard in the diagnosis of malignancies of the esophagus and stomach. The endoscopic methods and biopsy is an important aspect in early detection and proper diagnosis of both esophageal as well as gastric carcinomas to carry out timely interventions and better prognosis [10]. The integration of endoscopic findings with histological examination allows clinicians to accurately characterize lesions, assess disease severity, and plan appropriate therapeutic interventions, including medical treatment, endoscopic therapy, or surgical management.

Despite the widespread use of endoscopy, discrepancies between endoscopic impressions and histopathological findings may occur. Therefore, studies evaluating the correlation between endoscopic observations and histopathological diagnoses are essential for improving diagnostic accuracy and clinical decision-making. Understanding the histopathological spectrum of gastrointestinal lesions can also provide valuable insights into disease patterns, prevalence of inflammatory and neoplastic conditions, and demographic distribution among different patient populations.

The primary aim of this study was to determine the spectrum of histopathological lesions of the GIT and compare these findings with endoscopic observations. This involved a detailed analysis of demographic data (age and sex distribution), the types of lesions identified, and the correlation between endoscopic and histological diagnoses across different GIT sites, including the esophagus, stomach, and duodenum. By examining the relationship between endoscopic appearances and microscopic findings, this study seeks to enhance diagnostic accuracy and contribute to improved clinical management of gastrointestinal diseases.

Methodology

Study Design: The present study was conducted using a retrospective observational study design to evaluate the histopathological spectrum of gastrointestinal tract (GIT) lesions and to determine their correlation with endoscopic findings. The study involved reviewing previously recorded clinical, endoscopic, and histopathological data of patients who underwent gastrointestinal endoscopy with biopsy. The aim was to analyze the nature and distribution of lesions in different parts of the GIT and to compare the endoscopic diagnosis with the histopathological diagnosis to assess their correlation.

Study Area: The study was carried out in the Department of Pathology, Government Medical College Bettiah, West Champaran, Bihar, India.

Study Duration: The study was conducted over a period of six months from March 2025 to August 2025.

Sample Size: A total of 64 cases of gastrointestinal biopsy specimens obtained during endoscopic examination were included in the study. These samples were selected based on the availability of complete clinical information, endoscopic findings, and histopathological reports.

Study Population: The study population consisted of patients presenting with symptoms suggestive of gastrointestinal tract disorders who underwent upper gastrointestinal endoscopy and biopsy. These patients included individuals with symptoms such as dysphagia, abdominal pain, vomiting, gastrointestinal bleeding, weight loss, and other related complaints. Biopsy samples were taken from suspicious lesions located in the esophagus, stomach, and duodenum for histopathological evaluation.

Data Collection: Data for the study were collected retrospectively from hospital records, endoscopy registers, and histopathology reports. Demographic details such as age and sex of the patients were recorded. Information regarding clinical presentation and endoscopic findings including the location, size, and appearance of lesions was also documented. The histopathological diagnosis obtained from microscopic examination of biopsy specimens was retrieved from pathology records and correlated with the corresponding endoscopic findings.

Inclusion Criteria

- Patients who underwent upper gastrointestinal endoscopy with biopsy during the study period.
- Biopsy samples from esophagus, stomach, and duodenum.
- Cases with adequate biopsy material for histopathological evaluation.
- Patients with complete clinical and endoscopic records.

Exclusion Criteria

- Inadequate or poorly preserved biopsy specimens.
- Cases with incomplete clinical or endoscopic data.
- Patients who underwent endoscopy without biopsy.
- Duplicate biopsy samples from the same lesion

Procedure: All biopsy specimens obtained during endoscopy were fixed in 10% neutral buffered formalin and transported to the histopathology laboratory. The tissues were processed using routine histopathological techniques, which included dehydration, clearing, paraffin embedding, sectioning at 3–5 micrometers, and staining. The primary stain used was hematoxylin and eosin (H&E) for evaluation of tissue architecture and cellular details. Additional special stains such as Periodic Acid–Schiff (PAS) for mucin detection and Giemsa stain for identification of *Helicobacter pylori* were used whenever

necessary. Microscopic examination was performed by experienced pathologists, and lesions were categorized as inflammatory, benign, premalignant, or malignant. The histopathological findings were then correlated with the endoscopic diagnosis.

Statistical Analysis: The collected data were entered into Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS) software version 25.0. Descriptive statistics such as frequency and percentage were used to summarize demographic variables and distribution of lesions according to site, age group, and sex. The Chi-square test was applied to determine the association between endoscopic findings and histopathological

diagnoses. A p-value of less than 0.05 was considered statistically significant.”

Result

Table 1 presents the demographic characteristics of the study population (N = 64). The majority of participants were in the 40–59 years age group (40.63%), followed by 60–79 years (25%) and 20–39 years (21.88%). Younger individuals (<20 years) and the elderly (≥ 80 years) each accounted for 6.25% of cases. With respect to gender distribution, males predominated with 42 cases (65.63%), while females accounted for 22 cases (34.37%). Overall, the findings indicate that gastrointestinal lesions were more common among middle-aged and older adults, with a higher prevalence in males.

Variable	Category	Number of Cases (N)	Percentage (%)
Age Group (Years)	<20	4	6.25
	20–39	14	21.88
	40–59	26	40.63
	60–79	16	25
	≥ 80	4	6.25
Gender	Male	42	65.63
	Female	22	34.37
Total		64	100

Table 2 shows the distribution of gastrointestinal lesions according to the site of involvement among 64 cases. The stomach was the most commonly affected site with 34 cases (53.13%), followed by the duodenum with 20 cases (31.25%). The esophagus

accounted for 10 cases (15.63%), representing the least frequently involved site. Overall, the findings indicate that gastric lesions constituted the majority of gastrointestinal pathologies in the study population.

Site of Lesion	Number of Cases (N)	Percentage (%)
Esophagus	10	15.63
Stomach	34	53.13
Duodenum	20	31.25
Total	64	100

Table 3 presents the histopathological spectrum of gastrointestinal lesions among 64 cases. The most common diagnosis was chronic gastritis, observed in 20 cases (31.25%), followed by duodenitis in 12 cases (18.75%). Chronic active gastritis associated with *H. pylori* was identified in 8 cases (12.5%). Esophagitis and peptic ulcer disease were each seen

in 6 cases (9.38%). Adenocarcinoma accounted for 7 cases (10.94%), representing the main malignant lesion in the study. Less common findings included gastric polyps in 3 cases (4.69%) and Barrett's esophagus in 2 cases (3.13%). Overall, inflammatory conditions constituted the majority of gastrointestinal lesions.

Histopathological Diagnosis	Number of Cases (N)	Percentage (%)
Chronic Gastritis	20	31.25
Chronic Active Gastritis (<i>H. pylori</i>)	8	12.5
Duodenitis	12	18.75
Esophagitis	6	9.38
Peptic Ulcer Disease	6	9.38
Gastric Polyp	3	4.69
Adenocarcinoma	7	10.94
Barrett's Esophagus	2	3.13
Total	64	100

Table 4 presents the concordance between endoscopic and histopathological diagnosis in gastric lesions (n = 34). Among cases diagnosed as adenocarcinoma on endoscopy, 6 cases were confirmed as adenocarcinoma on histopathology, while 2 cases were found to be gastritis. For gastritis, 24 cases were confirmed histopathologically, whereas 2 cases were diagnosed as ulcers. All 3 cases identified as polyps on endoscopy were confirmed on

histopathology, showing complete concordance. Among cases suspected as ulcers on endoscopy, 4 were confirmed as ulcers and 1 was diagnosed as gastritis on histopathological examination. Overall, the findings demonstrate a high level of agreement between endoscopic and histopathological diagnoses, with a few discrepancies noted between gastritis and ulcer or adenocarcinoma.

Table 4: Concordance Between Endoscopic and Histopathological Diagnosis in Stomach (n = 34)

Endoscopic Finding	Adenocarcinoma (N)	Gastritis (N)	Polyp (N)	Ulcer (N)
Adenocarcinoma	6	2	0	0
Gastritis	0	24	0	2
Polyp	0	0	3	0
Ulcer	0	1	0	4

Table 5 shows the concordance between endoscopic and histopathological diagnosis in duodenal lesions (n = 20). Among cases diagnosed as adenocarcinoma on endoscopy, 4 cases were confirmed histopathologically, while 1 case was found to be duodenitis, indicating a minor discrepancy. For celiac disease, 2 cases were confirmed on histopathology, whereas 2 cases were diagnosed as duodenitis. All

11 cases identified as duodenitis on endoscopy were confirmed on histopathology, demonstrating complete concordance for this condition. Overall, the findings indicate good agreement between endoscopic and histopathological diagnoses, particularly for duodenitis, with a few discrepancies in suspected adenocarcinoma and celiac disease cases.

Table 5: Concordance Between Endoscopic and Histopathological Diagnosis in Duodenum (n = 20)

Endoscopic Finding	Adenocarcinoma (N)	Celiac Disease (N)	Duodenitis (N)
Adenocarcinoma	4	0	1
Celiac Disease	0	2	2
Duodenitis	0	0	11

Table 6 shows the concordance between endoscopic and histopathological diagnosis in esophageal lesions (n = 10). Among cases diagnosed as carcinoma on endoscopy, 4 cases were confirmed as carcinoma on histopathology, while 2 cases were found to be esophagitis, indicating partial discordance. For Barrett’s esophagus, 2 cases were confirmed histopathologically, while 2 cases were diagnosed as

esophagitis. All 4 cases diagnosed as esophagitis on endoscopy were confirmed on histopathology, demonstrating complete concordance for this condition. Overall, the findings show good agreement for esophagitis, while some discrepancies were noted in cases suspected to be carcinoma and Barrett’s esophagus on endoscopy.

Table 6: Concordance Between Endoscopic and Histopathological Diagnosis in Esophagus (n = 10)

Endoscopic Finding	Carcinoma (N)	Barrett’s Esophagus (N)	Esophagitis (N)
Carcinoma	4	0	2
Barrett’s Esophagus	0	2	2
Esophagitis	0	0	4

Table 7 presents the overall correlation between endoscopic and histopathological diagnosis. Out of 64 total cases, 49 cases showed concordance between endoscopic findings and histopathological diagnosis, while 15 cases were discordant. This resulted in a concordance rate of 76.56%, indicating a substantial level of agreement between the two diagnostic

methods. The Chi-square test showed statistical significance (p < 0.05), suggesting a meaningful association between endoscopic and histopathological findings. Additionally, Cohen’s kappa value of 0.46 indicates a moderate level of agreement between the two diagnostic modalities.

Parameter	Value
Total Cases	64
Concordant Cases	49
Discordant Cases	15
Concordance Rate	76.56%
Chi-square Test	$p < 0.05$
Cohen's Kappa Value	0.46

Discussion

The current research assessed the histopathological spectrum of the upper gastrointestinal tract (GIT) lesions and their association with endoscopic findings in 64 study participants. In the present research, patients in the 40-59 years age group (40.63%), then in the 60-79 years age group (25) and the 20-39 years age group (21.88) were predominant. The same age distribution has been demonstrated in various past research where middle-aged and older people form the greatest percentage of patients who receive upper gastrointestinal endoscopic biopsy. Indicatively, Abilash et al., (2016) [4] recorded that the majority of patients with upper gastrointestinal lesions aged in the fifth and sixth decades of life, which indicated that chronic inflammatory and neoplastic lesions had high prevalence as age advanced. Similarly, Shin et al., (2022) [6] indicated that patients who presented with upper gastrointestinal symptoms were aged 40 to 60 years in majority and this also compares to the present age pattern study. Gender wise, males were 65.63 out of cases in the current study as opposed to 67.70 in the past studies on gastrointestinal lesions showing that the diseases were very common among males. Research conducted by Saroha and Ahamed revealed that there was a preponderance of males in upper gastrointestinal biopsies, which was ascribed to lifestyle prevalence including smoking, alcohol consumption, and dietary habits that predisposed to gastrointestinal disease (Saroha & Ahamed, 2022) [11].”

In terms of their anatomical distribution, the stomach in the current study had the highest number of lesions with 53.13 being the highest (stomach), duodenum (31.25), and esophagus (15.63). The same results have been reported in other histopathological research of upper gastrointestinal biopsies. According to Abilash et al., (2016) [4], biopsies of the upper gastrointestinal tract mostly included gastric lesions, and this exposed the gastric mucosa to inflammatory and neoplastic pathways. On the same note, Patil et al. (2022) [12] reported that gastric biopsies were the most accessed specimens in endoscopic practice, then duodenal biopsies. This gastric preponderance could be associated with the high incidence of chronic gastritis and *Helicobacter pylori* infection that has been known to cause a broad spectrum of gastric mucosal changes.

Chronic gastritis was the most prevalent histopathological diagnosis in the given study, with 31.25% of the cases. This observation is in agreement with various research reports to have found chronic gastritis as the most common lesion upon gastric biopsies. Abilash et al., (2016) [4] reports the presence of chronic gastritis in almost one-third of upper gastrointestinal biopsies, which is similar to proportion in the present study. Moreover, gastritis was also found by Shin et al. (2022) [6] as the most frequent endoscopic and histopathological observation in patients with dyspeptic symptoms. The prevalence of the presence of *Helicobacter pylori*-associated chronic active gastritis in 12.5% of cases in the current study is also consistent with past studies of the important role of *H. pylori* infection in the pathogenesis of chronic gastritis and peptic ulcer disease. Mustafa et al. (2017) [7] argue that chronic gastritis that can happen as a result of *H. pylori* is still one of the most significant causes of gastric mucosal inflammation and the precursor of gastric carcinoma.

The second most frequent histopathological finding in the given research was duodenitis (18.75%). Patil et al. (2022) [12] also reported similar findings and observed that duodenitis was common in duodenal biopsies histological diagnosis and especially among patients who reported dyspepsia and malabsorption. Conversely, there are studies that have found fewer cases to duodenitis, suggesting that there might be a difference in patient groups, diet, and local epidemiology. The current research also revealed situations of celiac disease and adenocarcinoma in the duodenum which underscores the wide range of duodenal lesions that are encountered in clinical practice.

The current study reported esophageal lesions and most frequently was esophagitis, 15.63 percent. This fact is in line with the results of Nabi and Reddy, (2016) [13] who indicated that inflammatory lesions like reflux esophagitis are some of the most common esophageal abnormalities observed during an endoscopy. In the current research, Barrett esophagus was diagnosed in minor percentage (3.13) which is similar to the previous findings that Barrett esophagus is not very common yet clinically important due to its relationships with esophageal adenocarcinoma.

Smaller cases but clinically relevant proportion of neoplastic lesions were found in the current study with a finding of adenocarcinoma in 10.94 percent

of the patients. The incidence of gastric adenocarcinoma is in line with the global epidemiological trends that show that gastric cancer continues to be amongst the most prevalent types of gastrointestinal malignancy across the world. Research papers by Sekiguchi et al. (2022) [9], and Karimi et al. (2014) [14] have highlighted that gastric adenocarcinoma has remained a significant health problem especially in developing nations where late diagnosis is a prevalent occurrence. Endoscopy capability of detecting suspicious lesions is important in early detection of such malignancies though histopathological confirmation is still necessary.

The analysis of endoscopic and histopathological data of the current study revealed that the overall concordance rate was 76.56, with a Cohen kappa of 0.46, which implied moderate agreement between the two types of diagnosis. These results are similar to other studies which have found moderate to high level of agreement between endoscopic findings and histological diagnoses. Similar moderate correlations were reported in upper gastrointestinal biopsies between endoscopic studies and histopathological diagnosis (Sarooha and Ahamed, 2022) [11]. But the lack of agreement between endoscopic and histological diagnosis is not uncommon especially in diseases with a mild mucosal alteration. As Zhang et al. (2017) [15] emphasized, more sophisticated methods of endoscopy like confocal laser endomicroscopy can increase the level of diagnostic accuracy since real-time microscopic analysis of the mucosal structures could be used.

In the current work, site-specific analysis showed a relatively high concordance rate of the gastric lesions, especially gastritis and polyps, although lower concordance rates were found in such conditions as Barretts esophagus. This variation in diagnostic accuracy in the various anatomic locations has been reported in other studies in the past. According to Patil et al. (2022) [12], duodenal biopsies can usually be correlated well with endoscopic results in an inflammatory pathology but can need histological validation of more complicated lesions. Also, more recent methods like endoscopic ultrasound-guided fine-needle aspiration have been demonstrated to enhance diagnostic assessment of subepithelial and duodenal lesions (Xu et al., 2008) [16].

Overall, the findings of the present study support the existing evidence that while endoscopy is an indispensable diagnostic tool for evaluating gastrointestinal lesions, histopathological examination remains the gold standard for definitive diagnosis. The moderate concordance observed between endoscopic and histological findings underscores the importance of routine biopsy and histopathological evaluation in patients with suspected gastrointestinal pathology. Integrating endoscopic assessment with histopathological analysis not only improves diagnostic accuracy but also facilitates early detection

and appropriate management of both benign and malignant gastrointestinal diseases.

Conclusion

The present study highlights the diverse histopathological spectrum of gastrointestinal tract lesions and emphasizes the importance of correlating endoscopic findings with histopathological examination. Gastrointestinal lesions were observed across different age groups with a predominance in middle-aged and elderly individuals, and males were more frequently affected than females. The stomach was identified as the most commonly involved site, followed by the duodenum and esophagus. Among the various lesions, inflammatory conditions such as gastritis and duodenitis constituted the majority of cases, while neoplastic lesions including adenocarcinoma were also identified in a smaller proportion. Endoscopic evaluation showed a good level of agreement with histopathological diagnosis across different gastrointestinal sites, although some discrepancies were noted. The overall correlation between endoscopic and histopathological findings was statistically significant, indicating that while endoscopy serves as an effective preliminary diagnostic tool, histopathological examination remains essential for definitive diagnosis and accurate characterization of gastrointestinal lesions.

References

1. Nguyen VX, Le Nguyen VT, Nguyen CC. Appropriate use of endoscopy in the diagnosis and treatment of gastrointestinal diseases: up-to-date indications for primary care providers. International journal of general medicine. 2010 Nov 1;345-57.
2. Banstola L, Poudel SR: Histological study of endoscopic biopsies from the lower gastrointestinal tract. J Pathol Nepal. 2022, 12:1936-9.
3. Wu C, Zhang J, Li H, Xu W, Zhang X. The potential of liquid biopsies in gastrointestinal cancer. Clinical Biochemistry. 2020 Oct 1; 84:1-2.
4. Abilash SC, Kolakkadan H, Gitanjali MM, Shreelakshmidivi S, Balamuruganvelu S. Histopathologic spectrum of upper gastrointestinal tract mucosal biopsies: A retrospective study. Sch J App Med Sci. 2016;4(5):1807-3.
5. Drozd VY, Khukhlina OS, Mandryk OE, Hryniuk OE. Certain unsolved questions of pathogenetic interrelation between gastroesophageal reflux disease and chronic forms of ischemic heart disease (review of the references). Буковинський медичний вісник. 2016;20(2 (78)):191-3.
6. Shin M, George R, Goudar SR, Masoodi I. The spectrum of upper gastrointestinal endoscopic findings and therapeutic interventions in patients presenting with upper gastrointestinal complaints: a tertiary care study. Nigerian Journal of Medicine. 2022 Jul 1;31(4):396-400.

7. Mustafa M, Menon J, Muniandy RK, Illzam EM, Nornazirah A, Nang MK, Fairrul K, Sharifa AM. Gastric cancer: risk factors, diagnosis and management. *IOSR J Dent Med Sci*. 2017;16(3):69-74.
8. Yang L, Ying X, Liu S, Lyu G, Xu Z, Zhang X, Li H, Li Q, Wang N, Ji J. Gastric cancer: Epidemiology, risk factors and prevention strategies. *Chinese Journal of Cancer Research*. 2020 Dec 31;32(6):695.
9. Sekiguchi M, Oda I, Matsuda T, Saito Y. Epidemiological trends and future perspectives of gastric cancer in Eastern Asia. *Digestion*. 2022 Jan 4;103(1):22-8.
10. Sahu PR, Hiwale KM, Vagha SJ, Shukla S. Spectrum of lesions on upper gastrointestinal endoscopy and its correlation with histopathological evaluation. *J Evol Med Dent Sci*. 2020 Aug 10; 9:2301-7.
11. Saroha N, Ahamed MA: Histopathological study of neoplastic lesions of upper gastrointestinal tract endoscopic biopsies. *Indian J Pathol Oncol*. 2022, 9:43-7
12. Patil AA, More S, Shinde A: Diagnostic utility of endoscopic duodenal biopsies and histopathological finding in upper gastrointestinal diseases: a 2-year analysis. *Asian J Med Sci*. 2022, 13:277-83.
13. Nabi Z, Reddy DN. Endoscopic management of gastroesophageal reflux disease: revisited. *Clinical Endoscopy*. 2016 Sep 30;49(5):408-16.
14. Karimi P, Islami F, Anandasabapathy S, Freedman ND, Kamangar F. Gastric cancer: descriptive epidemiology, risk factors, screening, and prevention. *Cancer epidemiology, biomarkers & prevention*. 2014 May 1;23(5):700-13.
15. Zhang HP, Yang S, Chen WH, Hu TT, Lin J. The diagnostic value of confocal laser endomicroscopy for gastric cancer and precancerous lesions among Asian population: a system review and meta-analysis. *Scandinavian journal of gastroenterology*. 2017 Apr 3;52(4):382-8.
16. Xu GQ, Wu YQ, Wang LJ, Chen HT. Values of endoscopic ultrasonography for diagnosis and treatment of duodenal protruding lesions. *Journal of Zhejiang University SCIENCE B*. 2008 Apr;9(4):329-34.