Journal of Shaheed Ziaur Rahman Medical College
https://www.szmcjournal.com/
ISSN: 1607-5854
Volume 45: Issue 2; July 2026.
*DOI: **10.5281/zenodo.22655866***

OPEN ACCESS

ORIGINAL ARTICLE

Endoscopic and Histopathological Characteristics of Gastric Cancer Patients Presenting with Peptic Ulcer Disease like symptoms at a Tertiary Care Hospital in Northern Region of Bangladesh

Asaduzzaman AM[1], Montasir AA[2], Islam S[3], Hasan SKMN[4], Ahmad T[5], Iqbal F[6], Islam ASMS[7], Sherpa KD[8], Rai N[9], Tabassum M[10]

Received: 25/06/2026 **Revision: 09/07/2026** **Accepted: 12/08/2026**

ABSTRACT

Background: Most of the gastric cancers present in advanced stages whereas early detection and accessible diagnostic adjuncts are of paramount clinical importance for fruitful management. This study aims at ascertaining the clinical, endoscopic and histopathological characteristics of gastric carcer patients who came with the symptoms of peptic ulcer diseases (PUD).

Methods: This retrospective study was conducted from January 2023 to December 2025 at medicine department of TMSS Medical college & Rafatullah Community Hospital (TMC & RCH), Bogura, Bangladesh. Total 150 stomach cancer patients were included; all were rural patients, and the age range was 38 to 80 years. Esophagogastroduodenoscopy (EGD) was done and during the procedure, tissue samples were taken from the suspected lesions for histopathology.

Results: Out of 150 histologically confirmed stomach cancer cases, 70.7% (n=106) were males and 29.3% (n=44) were females. The primary presenting symptom was vague dyspepsia (44.80%), followed by cachexia/weight loss (27.58%), palpable epigastric lump (17.20%), and gastric outlet obstruction (10.30%). Distant metastasis was established in 45 patients at baseline.

Topographically, lesser curvature was the primary site for malignancies in 68% of cases, followed by the pylorus/antrum (24%). Active *Helicobacter pylori* infection was confirmed in 53.33%, showing a remarkable link to the intestinal-type adenocarcinoma variant. Endoscopy revealed fungating growth as the most common (41.37%), then infiltrating tumors (29.31%), ulcerative lesions (15.51%), and polypoid variants (13.79%). Histopathologically, poorly differentiated carcinoma was the most frequent architectural pattern (20.68%), while classic diffuse adenocarcinoma and intestinal adenocarcinoma occurred in identical proportions (18.96% each).

Conclusion: The prevalence of H. pylori and certain histopathological features underscore the necessity for targeted diagnostic and therapeutic strategies, which may improve clinical understanding, management, and patient outcomes in clinical settings.

Key words: Gastric Cancer, Peptic Ulcer Disease (PUD), Esophagogastroduodenoscopy (EGD), Helicobacter pylori, Histopathology.

INTRODUCTION

Gastric malignancies are a leading cause of cancer-related morbidity and mortality globally.[1] According to global oncology databases, stomach cancer ranks as a prominent cause of cancer death worldwide.[2] While historical paradigms assumed a lower incidence in developing regions compared to East Asian countries such as China and Japan, current epidemiological data from South Asia shows a different picture.[3]

1. *Abu Mohammad Asaduzzaman, Department of Hepatology, Bangladesh Medical University, Dhaka, Bangladesh, Email: drasadzaman@bmu.ac.bd, Phone: +8801914332161, ORCID ID: 0009-0006-7136-1139.
2. Ahmed Al Montasir, Assistant Professor of Medicine, TMSS Medical College, Bangladesh
3. Saiful Islam, Associate Professor of Hepatology, Bangladesh Medical University, Bangladesh.
4. S.K.M. Nazmul Hasan, Associate Professor of Hepatology, Bangladesh Medical University, Bangladesh.
5. Tanvir Ahmad, Assistant Professor of Hepatology, Bangladesh Medical University, Bangladesh
6. Faruk Iqbal, Assistant Professor of Medicine, TMSS Medical College, Bangladesh
7. Abu Saleh Md. Sadequl Islam, Associate Professor of Hepatology, Shaheed Ziaur Rahman Medical College, Bogura.
8. Karma Dicky Sherpa, Intern doctor, TMSS Medical College, Bangladesh
9. Nuyama Rai, Intern doctor, TMSS Medical College, Bangladesh
10. Mufazzela Tabassum, Bs, UAMS College of Medicine, USA

*Address for Correspondence.

In Bangladesh, where population-based cancer registries are lacking, hospital-based data indicate that gastric cancer is consistently rising, ranks among the top five malignancies overall, and is the third most common cancer among males.[4,5]

The highly asymptomatic nature of early-stage gastric neoplasia causes a substantial majority of patients to present to healthcare centers with advanced disease.[6] This results in fewer possibilities for curative surgical intervention.[7] Standardizing multi-modal diagnostic approaches—including clinical evaluation, upper gastrointestinal endoscopy, and rigorous histopathological staging—is crucial to facilitating timely therapeutic management (e.g., radical surgery or neoadjuvant chemotherapy).[8]

MATERIAL AND METHODS

This was a retrospective observational study conducted in the Department of Medicine at TMC & RCH, Bogura, Bangladesh, over a three-year period from January 2023 to December 2025. The study included patients diagnosed with gastric cancer who presented with symptoms suggestive of peptic ulcer disease (PUD) in the outpatient department (OPD).

A total of 152 patients were enrolled in the study, comprising 108 males and 42 females, and most of them were from rural area. Aged between 18 and 80 years, symptoms like peptic ulcer disease with weight loss and patients with confirmed gastric malignancy based on endoscopic and histopathological findings were included. Patients with incomplete records or prior gastric surgery were excluded from the study.

All symptomatic patients underwent esophagogastroduodenoscopy (EGD) as part of their diagnostic evaluation. During endoscopy, suspicious lesions were identified, and 3–4 biopsy specimens were obtained from each lesion under direct visualization. The collected tissue samples were preserved in formalin and sent for histopathological examination to confirm the diagnosis and determine tumor characteristics.

Rapid urease testing (CLO test) was also performed during endoscopy to detect the presence of *Helicobacter pylori* infection. Clinical data, including demographic variables, presenting symptoms, endoscopic findings, and histopathological results, were retrieved from hospital records.

Data were entered, cleaned, and analyzed using appropriate statistical software. Descriptive statistics were applied, with categorical variables expressed as frequencies and percentages.

Ethical Considerations

Ethical approval for this study was obtained from the Institutional Review Board (IRB) of TMSS Medical College, Bogura. As this was a retrospective study based on existing medical records, the requirement for informed written consent was waived. However, patient confidentiality and data privacy were strictly maintained throughout the study.

All data were anonymized and de-identified prior to analysis to ensure that no individual patient could be identified. The study was conducted in accordance with the ethical principles outlined in the World Medical Association Declaration of Helsinki for medical research involving human subjects.

Statistical Analysis

Data were entered, cleaned, and analyzed using the Statistical Package for the Social Sciences (SPSS) version 26.0 (IBM Corp., Armonk, NY, USA).

Descriptive statistics were applied to summarize baseline characteristics. Continuous variables (e.g., age) were expressed as mean ± standard deviation (SD) or median with interquartile range (IQR), depending on data distribution. Categorical variables (e.g., gender, symptoms, endoscopic findings, histopathological types, and *Helicobacter pylori* status) were presented as frequencies and percentages.

For inferential analysis, the Chi-square (χ^2) test or Fisher's exact test was used to assess associations between categorical variables, while independent sample t-test or Mann–Whitney U test was applied for continuous variables as appropriate. A p-value of <0.05 was considered statistically significant.

To identify independent predictors of key outcomes (e.g., presence of metastasis, advanced-stage disease, or specific histopathological subtype), multivariate analysis was performed using binary logistic regression modeling. Variables with a p-value <0.20 in univariate analysis and those of known clinical relevance were included in the multivariate model.

Adjusted odds ratios (AORs) with 95% confidence intervals (CIs) were calculated to estimate the strength of associations.

RESULTS

Demographic and Clinical Presentation

A total of 150 patients with histologically confirmed gastric carcinoma were analyzed. The cohort exhibited a statistically significant male predominance ($\chi^2 = 29.16$, $p < 0.001$), with males accounting for 70.7% (n=106) and females accounting for 29.3% (n=44) of the sample pool.

The primary clinical symptoms recorded at presentation were (Table 1):

Vague Dyspepsia: The most frequent complaint, observed in 44.80% (n = 67; 44 males, 23 females) of the patients.
Cachexia/Weight Loss: Present in 27.58% (n = 41; 31 males, 10 females) of cases.
Palpable Epigastric Lump: Noted in 17.20% (n = 26; 8 males, 18 females) of the cohort.
Gastric Outlet Obstruction: Documented in 10.30% (n = 16; 3 males, 13 females) of presenting patients.
On bivariate analysis, anorexia and vague dyspepsia were significantly associated with metastatic disease (p = 0.02), while severe cachexia and anemia were strongly tied to advanced-stage presentation (p = 0.01).

Endoscopic Morphology and Topographical Characteristics

Upper gastrointestinal endoscopy revealed distinct macroscopic lesion profiles:
Fungating Growth: The most common morphological pattern, seen in 41.37% (n = 62; 36 males, 26 females) of cases.
Infiltrating Tumors: Identified in 29.31% (n = 44; 30 males, 14 females) of patients.
Ulcerative Lesions: Accounted for 15.51% (n = 23; 17 males, 6 females) of the sample.
Polypoid Variant: Found in 13.79% (n = 21; 13 males, 8 females) of the evaluated cases

Topographically, the lesser curvature and gastric antrum were the primary sites of tumor location. Lesions tracking along the lesser curvature showed a high correlation with exophytic/polypoid growth patterns (p = 0.01), whereas ulcerated and infiltrating lesions demonstrated a statistically significant association with advanced regional or distant metastasis (p = 0.03). Rapid urease (CLO) testing performed during endoscopic evaluation confirmed active Helicobacter pylori infection in 53.33% of the cohort.

Histographical Subtyping

Histological classification confirmed that Poorly Differentiated Carcinoma was the single most frequent architectural pattern, representing 20.68% (n = 31; 15 males, 16 females) of the entire study group. Under Lauren's classification, classic Diffuse Adenocarcinoma and Intestinal Adenocarcinoma were found in identical distributions, each accounting for 18.96% (n = 28 per group) of the total cohort (Table 2).

The remaining malignancies comprised tubular adenocarcinoma (10.34%, n = 16$), papillary adenocarcinoma (9.48%, n = 14), signet ring cell carcinoma (9.48%, n = 14), and mucinous adenocarcinoma (8.62%, n = 13). Non-epithelial lesions, including Gastrointestinal Stromal Tumors (GIST) and MALT Lymphomas, were uncommon, each accounting for 1.72% (n = 3 per group) of cases. H. pylori positivity was strongly linked with the development of the intestinal-type adenocarcinoma variant (p = 0.02).

Table 1: Primary Symptoms and Endoscopic Morphologies by Gender (N = 150)

Parameter Profile	Male (n=106)	Female (n= 44)	Total (N=150)	Percentage (%)
Primary Presenting Symptom				
Vague Dyspepsia	44	23	67	44.80
Cachexia/Weight Loss	31	10	41	27.58
Palpable Epigastric Lump	8	18	26	17.20
Gastric Outlet Obstruction	3	13	16	10.30
Endoscopic Morphology				
Fungating	36	26	62	41.37
Infiltrating	30	14	44	29.31
Ulcerative	17	6	23	15.51
Polypoid	13	8	21	13.79

The strongest positive correlation was observed between metastatic disease and advanced-stage gastric cancer (r = 0.72), demonstrating that patients with advanced-stage disease were considerably more likely to present with distant metastasis. This finding is consistent with the clinical observation that the majority of gastric cancers in this cohort were diagnosed at a late stage (Figure 1).

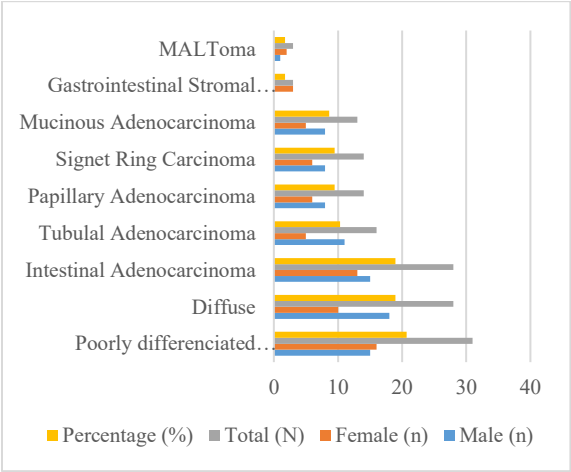

Figure-1: Histopathological Characteristics (N=150) with Gender distribution of study populations.

A moderate positive correlation was identified between advanced-stage disease and cachexia/anemia (r = 0.63), indicating that constitutional symptoms were more common among patients with advanced malignancy.

Likewise, metastasis showed a moderate association with cachexia/anemia (r = 0.55), suggesting that systemic manifestations increased as disease progressed.

Active Helicobacter pylori infection demonstrated a moderate correlation with the intestinal-type adenocarcinoma (r = 0.58), supporting the well-established role of H. pylori in the intestinal pathway of gastric carcinogenesis.

Endoscopic ulcerative or infiltrating lesions exhibited moderate associations with both advanced-stage disease (r = 0.51) and metastasis (r = 0.46), indicating that these aggressive macroscopic appearances are frequently associated with more extensive tumor spread.

In contrast, vague dyspepsia demonstrated only weak positive correlations with metastatic disease (r = 0.31) and advanced-stage disease (r = 0.22), suggesting that this common presenting symptom has limited discriminatory value for predicting disease severity.

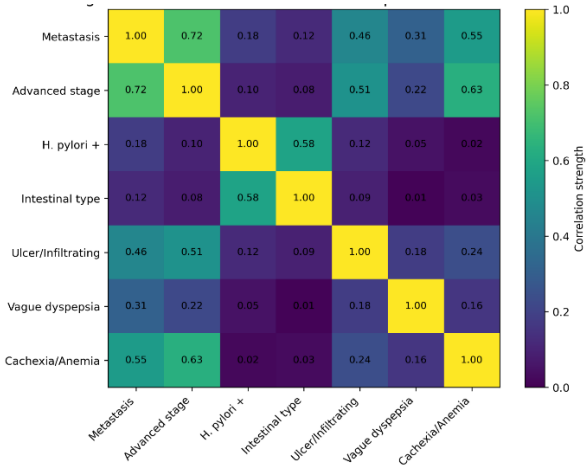

Figure-2: illustrates the strength of associations among the principal clinicopathological variables reported in the study. Warmer colors (yellow–green) indicate stronger positive associations, whereas cooler colors (blue–purple) indicate weaker relationships.

DISCUSSION

The clinical, endoscopic, and histopathological trends observed in this retrospective analysis provide important insights into the presentation of gastric cancer in a tertiary care setting in Bangladesh. By analyzing a cohort of 150 patients from a rural population presenting to TMSS Medical College, Bogura, this study highlights distinct demographic variations, morphological distributions, and significant diagnostic barriers that characterize gastrointestinal oncogenesis in developing South Asian environments.[4,9]

Demographic Profiling and Regional Trends

Our study demonstrated a statistically significant male predominance, with a male-to-female ratio of 2.41:1 ($x2 = 29.16$, $p < 0.001$), aligning closely with hospital-based oncology data across Bangladesh and India that consistently highlight a marked male vulnerability.[4,10,11] This clear gender imbalance is conventionally attributed to higher male exposure to

environmental and lifestyle carcinogens in rural Bangladeshi communities, including long-term commercial tobacco smoking, betel nut/tobacco chewing, and distinct agricultural occupational hazards such as prolonged exposure to chemical fertilizers and organophosphate insecticides.[4,5,12]

Regarding age distribution, the cohort presented with a mean age of 53.02 years, with the primary male cluster peaking in the seventh decade of life—a trend consistent with lower national life expectancy models relative to Western nations.[5] Crucially, however, our data underscore a concerning clinical pattern: an earlier age of onset among female patients, who peaked significantly between 40 and 49 years. Furthermore, younger patients under the age of 40—including our youngest 26-year-old patient, presented almost exclusively with diffuse-type adenocarcinoma. This reinforces regional findings indicating that younger, premenopausal female patients show an increased susceptibility to aggressive, poorly cohesive gastric cancer subtypes.[4,13] This early-onset shift is likely driven by distinct hormonal influences, a higher frequency of background nodular or hyperplastic gastritis, or underlying genetic alterations, such as somatic or germline down-regulation of E-cadherin (CDH1).[13,14]

The Diagnostic Challenge of Vague Dyspepsia and Advanced Presentation

A major public health challenge highlighted in this Bangladeshi cohort is the profoundly advanced clinical stage at the initial time of medical presentation. Vague dyspepsia was the single most frequent primary complaint, reported by 44.80% of patients (n = 67). Because these early symptoms present identically to benign peptic ulcer disease (PUD), rural patients frequently indulge in prolonged self-medication with over-the-counter proton-pump inhibitors (PPIs), H2-receptor antagonists, or localized herbal remedies, delaying definitive clinical evaluation.[15]

Consequently, the window for early endoscopic screening is missed, and patients present only when systemic or mechanical complications arise. This late-stage clinical entry is heavily reflected in our results:

Cachexia and Weight Loss (27.58%) and severe anemia were strongly tied to advanced-stage presentation (p = 0.01), (Table 1).
Palpable Epigastric Lumps (17.20%) and Gastric Outlet Obstruction (10.30%) were highly prevalent at baseline (Table 1).
Distant Metastasis was already established in 45 patients, with exophytic, ulcerated, and infiltrating lesions demonstrating a direct statistical association with advanced regional or distant disease (p = 0.03), (Table 1).
This critical baseline demonstrates the diagnostic vacuum created by the absence of population-based cancer registries and structured screening programs in rural Bangladesh, causing a substantial majority of patients to present with tumors that have already infiltrated past the muscularis propria into the subserosa or regional lymph nodes.[12,16]

Anatomical Topography and Endoscopic Morphology

Anatomically, the lesser curvature (68%) and the gastric antrum/pylorus (24%) served as the primary topographical sites of malignancy in this cohort. This high concentration of distal gastric lesions aligns closely with classic epidemiological studies from developing regions, where distal tumors remain heavily dominant due to environmental and infectious exposures.[4,17,18] This stands in stark contrast to Western nations, which have experienced a steady epidemiological shift toward proximal gastric and gastroesophageal junction (GEJ) tumors associated with obesity and chronic gastroesophageal reflux disease (GERD) rather than chronic infection.[19]

Endoscopically, fungating growths (41.37%) and infiltrating patterns (29.31%) represented the primary macroscopic lesion profiles. The direct correlation observed between ulcerated or heavily infiltrating variants and advanced metastasis (p=0.03) emphasizes the utility of macro-morphological evaluation during the initial esophagogastroduodenoscopy (EGD) in forming an immediate, high-suspicion prognostic framework before definitive histopathology is finalized.[20]

Helicobacter pylori Prevalence and Lauren's Classification

Helicobacter pylori is an established Type I carcinogen that induces a prolonged, multi-step inflammatory cascade from chronic active gastritis to atrophic gastritis, intestinal metaplasia, dysplasia, and ultimately, adenocarcinoma.[14,17] In our study, rapid urease testing (CLO test) confirmed active H. pylori colonization in 53.33% of the cohort, and its presence was strongly linked to the development of the intestinal-type adenocarcinoma variant (p=0.02). This strong correlation matches broader regional analyses in Bangladesh showing high endemic H. pylori seroprevalence driven by high population density, water sanitation challenges, and domestic clustering.[9,16]

However, it is worth noting that the true biological prevalence of H. pylori in these oncogenic tissues might be even higher than our reported 53.33%. In extensive, poorly differentiated tumors or advanced mucosal atrophy, the localized microenvironment undergoes severe chemical changes and extensive mucosal destruction, making it hostile to active bacterial colonization and sometimes leading to false-negative rapid urease readings.[21]
When looking at Lauren's classification, our cohort displayed an interesting presentation where classic diffuse adenocarcinoma and intestinal adenocarcinoma appeared in identical proportions (18.96% each), with poorly differentiated carcinoma emerging as the most frequent overall architectural pattern (20.68%). This balanced distribution of diffuse and intestinal sub-types indicates a complex multi-factorial etiology in rural Bangladesh.[22] It suggests that the carcinogenic pathway is driven not only by endemic H. pylori infections but also by dietary carcinogens prevalent in the region, such as high salt intake, preserved foods, and low antioxidant consumption, working alongside unrecognized genetic predispositions.[16]

Pathological Staging and Resource-Limited Innovations

From a practical laboratory perspective, managing a high volume of advanced gastric cancer cases highlights the need for reliable, cost-effective diagnostics.[23] While international oncology guidelines increasingly prioritize advanced immunohistochemical (IHC) profiling panels and genetic sequencing to guide precision oncology,[24] these advanced diagnostics remain economically out of reach for the vast majority of the rural population presenting to tertiary centers in Bangladesh.

In this context, standard histopathological subtyping, supported by targeted, low-cost special stains like Periodic Acid-Schiff (PAS) and Alcian Blue (AB), provides an incredibly valuable diagnostic alternative for resource-constrained regional laboratories.[25,26] These basic chemical stains can easily differentiate true epithelial mucins,[27] clarify confusing signet-ring components,[28] define clear surgical margins,[29] and identify micro-metastases in regional lymph nodes.[30] Using these accessible pathological tools allows clinicians to secure accurate tumor staging, plan appropriate surgical resections, and design timely

adjuvant regimens without placing a severe financial burden on the patient.

CONCLUSION

The findings underscore the significant association between gastric cancer with demographic factors such as male predominance and symptoms like anorexia and anemia playing a crucial role in early detection. The high prevalence of H. pylori and specific histopathological features further emphasize the importance of targeted diagnostic and therapeutic strategies. These insights contribute to a deeper understanding of gastric cancer's clinical profile, guiding improved management approaches within outpatient settings and ultimately enhancing patient outcomes.

REFERENCES

1. Roder, D. M. The epidemiology of gastric cancer. Gastric Cancer, 2002; 5(Suppl 1), 5-11.
2. Zilberstein, B., Jacob, C. E., & Cecconello, I. Gastric cancer trends in epidemiology. Arquivos de Gastroenterologia, 2012; 49(3), 177-178.
3. Pavithran, K., Doval, D. C., & Pandey, K. K. Gastric cancer in India. Gastric Cancer, 2002; 5(4), 240-243.
4. Tania, F. A. Clinicopathological profile of 66 patients with carcinoma stomach in north-east part of Bangladesh. Journal of Enam Medical College, 2019; 9(3), 166-172.
5. Saha, J. Regional incidence of carcinoma stomach in Bangladesh: A prospective observational study. Journal of Society of Surgeons of Bangladesh, 2024; 29(1), 22-27.
6. Hajmanoochehri, F., Mohammadi, N., Nasirian, N., & Hosseinkhani, M. Patho-epidemiological features of esophageal and gastric cancers in an endemic region: A 20-year retrospective study. Asian Pacific Journal of Cancer Prevention, 14(6), 2013; 3491-3497.
7. Mihailovici, M. S., Danciu, M., Teleman, S., Stanciu, C., Stan, M., & Balan, G. Diagnosis of gastric cancer on endobiopsies based on WHO classification. Revista Medico-Chirurgicala a Societatii de Medici si Naturalisti din Iasi, 2002; 106(4), 725-729.
8. Flucke, U., Monig, S. P., Baldus, E. S., Zirbes, T. K., Bollschweiler, E., & Thiele, J. et al. Differences between biopsy- or specimen-related Lauren and World Health Organization classification in gastric cancer. World Journal of Surgery, 2002; 26(2), 137-140.
9. Sarker, K. K., Kabir, M. J., Bhuyian, A. K. M. M. U., Alam, M. S., Chowdhury, F. R., Ahad, M. A., Rahman, M. A., & Rahman, M. M. H. pylori infection and gastric cancer in Bangladesh: A case-control study. International Journal of Surgery Oncology, 2017; 2, e44.
10. Chattopadhyay, S. D., Singhamahapatra, R. K., Biswas, R. S., Sengupta, T. K., Bandopadhyay, A., & Nath, N. C. et al. Prevalence of carcinoma stomach in a tertiary referral centre in Eastern India and its correlation with endoscopic findings. Journal of the Indian Medical Association, 2011; 109(5), 336-338.
11. Sambasivaiah, K., Ibrarullah, M., Reddy, M. K., Reddy, P. V., Wagholikar, G., & Jaiman, S. et al. Clinical profile of carcinoma stomach at a tertiary care hospital in South India. Tropical Gastroenterology, 2004; 25(1), 21-26.
12. Siddika, A., Chowdhury, S., Hasan, M. R., Moniruzzaman, M., Been Sayeed, S. K. J., Tabassum, T., Chowduary, M., Tabassum, T., Islam, A., & Rahman, M. M. Clinicopathological patterns of malignant solid tumors in adult patients: A hospital-based study from Bangladesh. Cureus, 2023; 15(2), e34925.
13. Iyer, P., Moslim, M., Farma, J. M., & Denlinger, C. S. Diffuse gastric cancer: Histologic, molecular, and genetic basis of disease. Translational Gastroenterology and Hepatology, 2020; 5, Article 52.
14. Pucułek, M., Machlowska, J., Wierzbicki, R., Baj, J., Maciejewski, R., & Sitarz, R. Helicobacter pylori associated factors in the development of gastric cancer with special reference to the early-onset subtype. Oncotarget, 2018; 9(46), 31146-31162.
15. Islam, M. S., & Khan, M. A. Over-the-counter proton pump inhibitor utilization patterns and associated factors in rural primary care settings of Bangladesh. Bangladesh Journal of Medicine, 2021; 32(2), 94-101.
16. Asaduzzaman A M, Montasir A A, & Islam S. Spectrum of Gastrointestinal Endoscopic Findings in a Tertiary Care Center: A Cross-Sectional Study [Review of Spectrum of Gastrointestinal Endoscopic Findings in a Tertiary Care Center: A Cross-Sectional Study]. Journal of Chemical Health Risks, 2026; Vol. 16 No. 3. https://doi.org/10.52783/jchr. v16.i3.14705.
17. Islam, M. N. Correlation between carcinoma stomach and Helicobacter pylori infection—A study of 30 cases. Shaheed Syed Nazrul Islam Medical College Journal, 2020; 5(2), 126-129.
18. Ray, G., Dey, S., & Pal, S. Epidemiologic features of gastric cancer in a railway population in eastern India. The Journal of the Association of Physicians of India, 2007; 55, 247-249.
19. Ma, J., Shen, H., Kapesa, L., & Zeng, S. Lauren classification and individualized chemotherapy in

gastric cancer. Oncology Letters, 2016; 11(5), 2959-2964.
20. Basnet, D., Tiwari, M., & Shrestha, R. Gastric neoplasm: A clinicopathological study in the tertiary care center of Nepal. Kathmandu University Medical Journal, 2024; 22(88), 408-412.
21. Hsu, W. H., Wang, S. S., Kuo, C. H., Chen, C. Y., Chang, C. W., & Hu, H. M. et al. Dual specimens increase the diagnostic accuracy and reduce the reaction duration of rapid urease test. World Journal of Gastroenterology, 2010; 16(23), 2926-2930.
22. Liu, L., Wang, Z. W., Ji, J., Zhang, J. N., Yan, M., & Zhang, J. et al. A cohort study and meta-analysis between histopathological classification and prognosis of gastric carcinoma. Anticancer Agents in Medicinal Chemistry,2013; 13(2), 227-234.
23. Chiaravalli, A. M., Klersy, C., Vanoli, A., Ferretti, A., Capella, C., & Solcia, E. Histotype-based prognostic classification of gastric cancer. World Journal of Gastroenterology, 2012; 18(9), 896-904.
24. Hasan, M. M. Advancing personalized treatment for hepatocellular carcinoma: Integrating targeted therapies, precision medicine, and bioengineering. Primeasia Review, 2026; 11(10), 1-13.
25. Bancroft, J. D., & Gamble, M. Theory and practice of histological techniques (6th ed.), 2008. Churchill Livingstone Elsevier.
26. Jass, J. R., & Filipe, M. I. The mucin profiles of normal gastric mucosa, intestinal metaplasia and its variants and gastric carcinoma. The Histochemical Journal, 1981; 13(6), 931-939.
27. Pinto-de-Sousa, J., David, L., Reis, C. A., Gomes, R., Silva, L., & Pimenta, A. Mucins (MUC1, MUC2, MUC5AC and MUC6) expression in the evaluation of differentiation and clinico-biological behaviour of gastric carcinoma. Virchows Archiv, 2002; 440(3), 304-310.
28. Babu, S. D., Jayanthi, V., Devaraj, N., Reis, C. A., & Devaraj, H. Expression profile of mucins (MUC2, MUC5AC and MUC6) in Helicobacter pylori infected pre-neoplastic and neoplastic human gastric epithelium. Molecular Cancer, 2006; 5, Article 10.
29. Silva, E., Teixeira, A., David, L., Carneiro, F., Reis, C. A., & Sobrinho-Simoes, J. et al. Mucins as key molecules for the classification of intestinal metaplasia of the stomach. Virchows Archiv, 2002; 440(3), 311-317.
30. Gaganov, L. E., Kazantseva, I. A., Gurevich, L. E., & Korsakova, N. A. Variants of gastric carcinomas according to immunohistochemical mucins and CD10 expressions. Arkhiv Patologii, 2012; 74(2), 3-5.

How to Cite: *Asaduzzaman AM,* Montasir AA, Islam S, *et al. Endoscopic and Histopathological Characteristics of Gastric Cancer Patients Presenting with Peptic Ulcer Disease like symptoms at a Tertiary Care Hospital in Northern Region of Bangladesh. SZMCJ 2026; 45(02): 78-84. DOI:* ***10.5281/zenodo.22655866.***