IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 24, Issue 5 Ser. 4 (May. 2025), PP 47-53
www.iosrjournals.org

A Rare Case Of Gastritis Cystica Profunda: A Case Report

G Dhayalan[1], S Premjeet[2], A Salina[2], A Suhaila[3]
Department Of Surgery, Hospital Canselor Tuanku Muhriz UKM, Kuala Lumpur, Malaysia
Department Of General Surgery, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia
Department Of Pathology, Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Malaysia

Abstract:
Introduction*: Gastritis cystica profunda (GCP) is a rare benign condition characterized by cystic dilatation of gastric glands that extend into the submucosa or deeper layers of the gastric wall. It often mimics more serious gastric pathology such as adenocarcinoma or submucosal tumors both endoscopically and histologically, making accurate diagnosis critical.*
Case Presentation*: We report the case of a 69-year-old woman with a history of hypertension, unstable angina, and chronic gastritis who presented with worsening upper abdominal pain and early satiety. Despite multiple clinic visits over four years, her symptoms had intensified. Endoscopic examination revealed multiple pedunculated polyps along the lesser curvature of the stomach. Snare polypectomy was performed. Histopathological analysis of the resected specimens demonstrated features consistent with GCP: cystically dilated glands extending into the muscularis mucosa and submucosa, lined by benign columnar epithelium with no dysplasia.*
Discussion*: This case highlights the diagnostic challenges posed by GCP due to its overlapping features with gastric malignancies. While the pathogenesis remains uncertain, chronic mucosal injury, Helicobacter pylori infection, and prior gastric surgery have all been implicated. Accurate differentiation from neoplastic lesions is crucial to avoid unnecessary surgical interventions. Management typically involves symptom relief and endoscopic surveillance; in severe or suspicious cases, endoscopic or surgical resection may be necessary*
Conclusion: *GCP should be considered in the differential diagnosis of gastric polyps, particularly in patients with longstanding gastritis or atypical symptoms. Histological evaluation remains the cornerstone for diagnosis, underscoring the importance of tissue sampling in all suspected cases*
Key Word: *Gastritis Cystica Profunda; Gastric Polyp; Gastric Cancer*

Date of Submission: 11-05-2025 Date of Acceptance: 21-05-2025

I. Introduction

Gastritis cystica profunda represents a rare and enigmatic condition characterized by the presence of cystic dilatations of gastric glands extending deep into the submucosa or even the muscularis propria[1]. This unusual entity predominantly affects the gastric antrum but can manifest elsewhere in the stomach, often presenting as polypoid lesions discernible through endoscopic examination[2]. The etiology of gastritis cystica profunda remains incompletely elucidated, with various factors implicated in its pathogenesis, including chronic mucosal injury, prior surgical interventions, and, notably, Helicobacter pylori infection[3]. While the precise mechanisms underlying its development are still under investigation, the prevailing hypothesis suggests that repetitive damage to the gastric mucosa, irrespective of the cause, prompts glandular misplacement and cystic transformation during the regenerative process.

Differentiating gastritis cystica profunda from other gastric lesions, such as gastric adenocarcinoma and submucosal tumors, is crucial for appropriate clinical management, necessitating a comprehensive diagnostic approach encompassing endoscopic evaluation, histopathological examination, and, in select cases, advanced imaging modalities[4]. The clinical significance of gastritis cystica profunda stems not only from its diagnostic challenges but also from its potential association with an increased risk of gastric cancer development, underscoring the importance of diligent surveillance and timely intervention. This paper presents a rare case of gastritis cystica profunda, focusing on the diagnostic journey, therapeutic strategies, and insights gleaned from a thorough review of existing literature.

II. Case Report

A 69-year-old female patient with a history of hypertension, degenerative spine disease, unstable angina, and gastritis presented to the clinic with complaints of progressively worsening upper abdominal pain. She had been experiencing this pain intermittently for the past 4 years, but it had been worsening and required multiple clinic visits. The patient described the pain as colicky, non-radiating, and associated with early satiety and a feeling of bloatedness. Physical examination was unremarkable, and her biochemical profile was within normal limits, except for a hemoglobin level of 8.8 g/dL. Given the patient's initial presentation, an abdominal ultrasonography was performed, which revealed only cholelithiasis with no other significant findings. Subsequently, an esophagogastroduodenoscopy was performed, which revealed multiple pedunculated polyps along the lesser curvature of the stomach ***(Figure 1)***. Snare polypectomy was performed (***Figure 2***), and the patient was observed for a day before being discharged home in good condition. Histopathological examination of the resected polyps revealed polypoidal fragments of gastric mucosa exhibiting elongated, tortuous foveolae, hyperplastic glands, and overt dilated tubular glands, located along the muscularis mucosa and occasionally in the lamina propria. The glands were lined by bland single columnar epithelium with infolding features in some areas. The cells showed no cellular dysplasia or mitosis. The stroma was mildly edematous with infiltrated lymphocytes and plasma cells, and scattered congested blood vessels were seen within the lamina propria. There was no epithelial dysplasia in the overlying mucosa, and a focal area of erosion of the surface glandular epithelium was noted with granulation tissue formation ***(Figures 3 – 6***). These findings were highly suggestive of a diagnosis of Gastritis Cystica Profunda.

III. Discussion

Gastritis cystica profunda is an uncommon condition characterized by the abnormal presence of cystic glands within the submucosa or deeper layers of the gastric wall[5]. While the precise cause of gastritis cystica profunda remains a subject of ongoing investigation, several factors have been implicated in its development[6]. Chronic mucosal injury is believed to play a pivotal role, with repetitive damage to the gastric lining triggering glandular misplacement and cystic transformation during the regenerative process. Prior surgical interventions, such as partial gastrectomy or gastrojejunostomy, have also been associated with the development of gastritis cystica profunda, likely due to alterations in gastric anatomy and mucosal blood flow. Furthermore, Helicobacter pylori infection, a well-established cause of chronic gastritis, has been implicated in the pathogenesis of gastritis cystica profunda, potentially through the induction of persistent inflammation and mucosal damage. Histologically, gastritis cystica profunda is characterized by cystic dilatations of gastric glands extending deep into the submucosa or muscularis propria[7].

These cysts are typically lined by benign-appearing columnar epithelium, often exhibiting features of foveolar differentiation. The differential diagnosis of gastritis cystica profunda includes other gastric lesions that may present as polypoid lesions or submucosal masses. Gastric adenocarcinoma, particularly well-differentiated adenocarcinoma, should be considered, especially in cases with atypical features or concerning endoscopic findings[8]. Submucosal tumors, such as leiomyomas or gastrointestinal stromal tumors, may also mimic gastritis cystica profunda, necessitating careful histopathological evaluation to distinguish between these entities. The late stage of chronic atrophic gastritis exhibits small glands, remnants of glands, and gland replacement with fibrocellular infiltrate or intestinal metaplasia[3,8].

In the case presented, the patient's history of chronic abdominal pain, coupled with the endoscopic identification of multiple pedunculated polyps along the lesser curvature of the stomach, raised initial suspicion for a neoplastic process. However, histopathological examination of the resected polyps revealed characteristic features of gastritis cystica profunda, including cystic dilatation of gastric glands extending into the submucosa, lined by benign-appearing columnar epithelium, thus confirming the diagnosis. The treatment of gastritis cystica profunda primarily focuses on symptomatic management and endoscopic surveillance. In patients with mild symptoms, conservative measures such as dietary modifications and acid-suppressing medications may provide adequate relief. However, in cases with severe or refractory symptoms, or when there is concern for malignancy, more aggressive interventions may be warranted.

Endoscopic resection techniques, such as polypectomy or endoscopic mucosal resection, can be employed to remove localized lesions and provide tissue for definitive histopathological diagnosis. Surgical resection, such as partial gastrectomy, may be considered in cases with extensive disease or when endoscopic approaches are not feasible[9]. The importance of recognizing gastritis cystica profunda lies in its potential to mimic other gastric lesions, particularly gastric adenocarcinoma, both endoscopically and histologically[9,10]. Such gastric tumors usually necessitate complete resection by total gastrectomy[10].

The differentiation of gastritis cystica profunda from malignancy is crucial to avoid unnecessary surgical interventions and ensure appropriate patient management. Endoscopic surveillance is recommended for patients with gastritis cystica profunda to monitor for any changes in lesion morphology or size, as well as to detect any signs of dysplasia or malignant transformation. Chronic atrophic gastritis requires laboratory

examination, endoscopic biopsy, and surveillance[11]. American Journal of Gastroenterology guidelines suggest having surveillance endoscopy with biopsy mapping of the gastric mucosa or serum pepsinogen levels one year after the index endoscopy[12]. Additionally, hyperplastic polyps, while not true neoplasms, can coexist with atrophic gastritis, which is generally considered to have precancerous potential[13]. It has been shown that chronic atrophic gastritis, intestinal metaplasia and concomitant dysplasia are closely related to the development of gastric cancer[14]. Mucosal-protective agents and proton pump inhibitors are commonly used medications for chronic gastritis[15]. In cases of refractory peptic ulcer disease, treatment should focus on addressing the underlying cause, such as avoiding smoking and NSAIDs, eradicating persistent H. pylori infection, or considering surgical excision of gastrinomas[16].

The management of early gastric cancer has been revolutionized by endoscopic resection and minimally invasive access, especially in countries with extensive screening programs that allow for the detection of tumors confined to the mucosa or submucosa[17]. Given the rarity of gastritis cystica profunda, there is a paucity of high-quality evidence to guide clinical decision-making. Most of the available data comes from case reports and small case series, which may limit the generalizability of findings. Further research is needed to better understand the natural history of gastritis cystica profunda and to identify optimal management strategies. Gastric cancer is a major health concern worldwide, thus surgical resection and chemotherapy is the mainstay treatment for gastric carcinoma[18]. Early gastric cancers have a 5-year survival rate of over 90% to 95%, in contrast to the 5-year survival rates for advanced gastric cancer are less than 20%[19]. Therefore, there is an immense clinical value in detecting and treating gastric cancer early[19].

Eradication of H. pylori improves corpus gastric atrophy, but not antral gastric atrophy[20]. However, eradication of H. pylori has been shown to prevent secondary gastric cancer in patients with mild to moderate atrophic gastritis[21]. It is uncertain whether metaplasia is a direct precursor of gastric cancer or merely a marker of high cancer risk[22]. Regardless, since most individuals with gastric cancer have corpus atrophy and/or IM, these findings are sufficient to define high-risk patients in need of endoscopic surveillance[23]. After more than 20 years of experience in H. pylori treatment, the ideal regimen to treat this infection is still yet to be discovered[24]. With emerging data on antibiotic resistance, novel treatments that can circumvent this issue are needed

IV. Conclusion

Gastritis cystica profunda is a rare benign condition that can mimic other gastric lesions, including malignancy.

This case report highlights the importance of considering gastritis cystica profunda in the differential diagnosis of gastric polyps, particularly in patients with chronic abdominal pain.

Histopathological examination is essential for accurate diagnosis and to guide appropriate management. Although rare, it is crucial to correctly identify gastritis cystica profunda to prevent unnecessary surgical intervention[25]. Further research is needed to better understand the etiology, natural history, and optimal management of this enigmatic condition.

References

[1] Archid R, Kratt T, Schneider CC. Therapeutic Management Of Submucosal Gastric Tumors: A Series Of Six Cases With Ectopic Pancreas In The Stomach And Description Of A Novel Endoscopic Full-Thickness Resection Technique Of The Gastric Wall. Journal Of Gastrointestinal & Digestive System 2016;6. Https://Doi.Org/10.4172/2161-069x.1000433.

[2] Halawani HM, Khalife M, Safadi B, Rida K, Boulos F, Khalifeh F. Laparoscopic Antral Resection With Billroth I Reconstruction For A Gastric Glomus Tumor. International Journal Of Surgery Case Reports 2014;5:1128. Https://Doi.Org/10.1016/J.Ijscr.2014.10.009.

[3] Recavarren-Arce S, Gilman RH, León-Barúa R, Salazar G, Mcdonald J, Lozano R, Et Al. Chronic Atrophic Gastritis: Early Diagnosis In A Population Wherehelicobacter Pyloriinfection Is Frequent. Clinical Infectious Diseases 1997;25:1006. Https://Doi.Org/10.1086/516080.

[4] Hwang JH, Rulyak S, Kimmey MB. American Gastroenterological Association Institute Technical Review On The Management Of Gastric Subepithelial Masses. Gastroenterology 2006;130:2217. Https://Doi.Org/10.1053/J.Gastro.2006.04.033.

[5] Lim J, Jang Y, Jung MK, Ryeom HK, Kim G-C, Bae J-H. Ménétrier Disease Manifested By Polyposis In The Gastric Antrum And Coexisting With Gastritis Cystica Profunda. Gastrointestinal Endoscopy 2010;72:1098. Https://Doi.Org/10.1016/J.Gie.2010.02.020.

[6] Ливзан МА, Мозговой СИ, Гаус ОВ, Shimanskaya AG, Av K. Histopathological Evaluation Of Gastric Mucosal Atrophy For Predicting Gastric Cancer Risk: Problems And Solutions. Diagnostics 2023;13:2478. Https://Doi.Org/10.3390/Diagnostics13152478.

[7] Zhang C. Helicobacter Pyloriinfection, Glandular Atrophy And Intestinal Metaplasia In Superficial Gastritis, Gastric Erosion, Erosive Gastritis, Gastric Ulcer And Early Gastric Cancer. World Journal Of Gastroenterology 2005;11:791. Https://Doi.Org/10.3748/Wjg.V11.I6.791.

[8] Miyazawa M, Matsuda M, Yano M, Hara Y, Arihara F, Horita Y, Et Al. Gastric Adenocarcinoma Of The Fundic Gland (Chief Cell-Predominant Type): A Review Of Endoscopic And Clinicopathological Features. World Journal Of Gastroenterology 2016;22:10523. Https://Doi.Org/10.3748/Wjg.V22.I48.10523.

[9] Sun C, Yang K, Liao C. Endoscopic Management Of Gastric Polyp With Outlet Obstruction Without Polypectomy. Case Reports In Gastroenterology 2011;5:267. Https://Doi.Org/10.1159/000328443.

[10] Makarewicz W, Bobowicz M, Dubowik M, Kosiński A, Jastrzebski T, Jaśkiewicz J. Endoscopic Submucosal Dissection Of Gastric Ectopic Pancreas. Videosurgery And Other Miniinvasive Techniques 2013:249. Https://Doi.Org/10.5114/Wiitm.2011.33709.

[11] Zhang Z, Zhang X. Chronic Atrophic Gastritis In Different Ages In South China: A 10-Year Retrospective Analysis. BMC Gastroenterology 2023;23. Https://Doi.Org/10.1186/S12876-023-02662-1.
[12] Singh K, Gandhi S, Batool R. A Case-Control Study Of The Association Between Vitamin D Levels And Gastric Incomplete Intestinal Metaplasia. Nutrients 2018;10:629. Https://Doi.Org/10.3390/Nu10050629.
[13] Büyükaşık K, Sevinç MM, Gündüz UR, Arı A, Gürbulak B, Toros AB, Et Al. Upper Gastrointestinal Tract Polyps: What Do We Know About Them? Asian Pacific Journal Of Cancer Prevention 2015;16:2999. Https://Doi.Org/10.7314/Apjcp.2015.16.7.2999.
[14] Yang Y, Tao Z, Fang S, Zhang P, Wei W. Practice And Thinking On The Traditional Chinese Medicine Treatment Of Chronic Atrophic Gastritis Based On Pathological Evaluation. Gut Microbiota And Integrative Wellness 2022;1. Https://Doi.Org/10.54844/Gmiw.2022.0091.
[15] Du Y, Bai Y, Xie P, Fang J, Wang X, Hou X, Et Al. Chronic Gastritis In China: A National Multi-Center Survey. BMC Gastroenterology 2014;14. Https://Doi.Org/10.1186/1471-230x-14-21.
[16] Napolitano LM. Refractory Peptic Ulcer Disease. Gastroenterology Clinics Of North America 2009;38:267. Https://Doi.Org/10.1016/J.Gtc.2009.03.011.
[17] Orditura M. Treatment Of Gastric Cancer. World Journal Of Gastroenterology 2014;20:1635. Https://Doi.Org/10.3748/Wjg.V20.I7.1635.
[18] Fiflis S, Papakonstantinou M, Giakoustidis A, Christodoulidis G, Louri E, Papadopoulos V, Et Al. Comparison Between Upfront Surgery And Neoadjuvant Chemotherapy In Patients With Locally Advanced Gastric Cancer: A Systematic Review. World Journal Of Gastrointestinal Surgery 2023;15:1808. Https://Doi.Org/10.4240/Wjgs.V15.I8.1808.
[19] Park Y, Kim N. Review Of Atrophic Gastritis And Intestinal Metaplasia As A Premalignant Lesion Of Gastric Cancer. Journal Of Cancer Prevention 2015;20:25. Https://Doi.Org/10.15430/Jcp.2015.20.1.25.
[20] Bhandari A, Crowe SE. Helicobacter Pylori In Gastric Malignancies. Current Gastroenterology Reports 2012;14:489. Https://Doi.Org/10.1007/S11894-012-0296-Y.
[21] Kato M, Hayashi Y, Nishida T, Oshita M, Nakanishi F, Yamaguchi S, Et Al. Helicobacter Pylori Eradication Prevents Secondary Gastric Cancer In Patients With Mild-To-Moderate Atrophic Gastritis. Journal Of Gastroenterology And Hepatology 2021;36:2083. Https://Doi.Org/10.1111/Jgh.15396.
[22] Kinoshita H, Hayakawa Y, Koike K. Metaplasia In The Stomach—Precursor Of Gastric Cancer? International Journal Of Molecular Sciences 2017;18:2063. Https://Doi.Org/10.3390/Ijms18102063.
[23] Mcguire S. World Cancer Report 2014. Geneva, Switzerland: World Health Organization, International Agency For Research On Cancer, WHO Press, 2015. Advances In Nutrition 2016;7:418. Https://Doi.Org/10.3945/An.116.012211.
[24] Gisbert JP. "Rescue" Regimens After Helicobacter Pylori Treatment Failure. World Journal Of Gastroenterology 2008;14:5385. Https://Doi.Org/10.3748/Wjg.14.5385.
[25] Endoh Y, Tamura G, Motoyama T, Ajioka Y, Watanabe H. Well-Differentiated Adenocarcinoma Mimicking Complete-Type Intestinal Metaplasia In The Stomach. Human Pathology 1999;30:826. Https://Doi.Org/10.1016/S0046-8177(99)90144-2.

Appendix

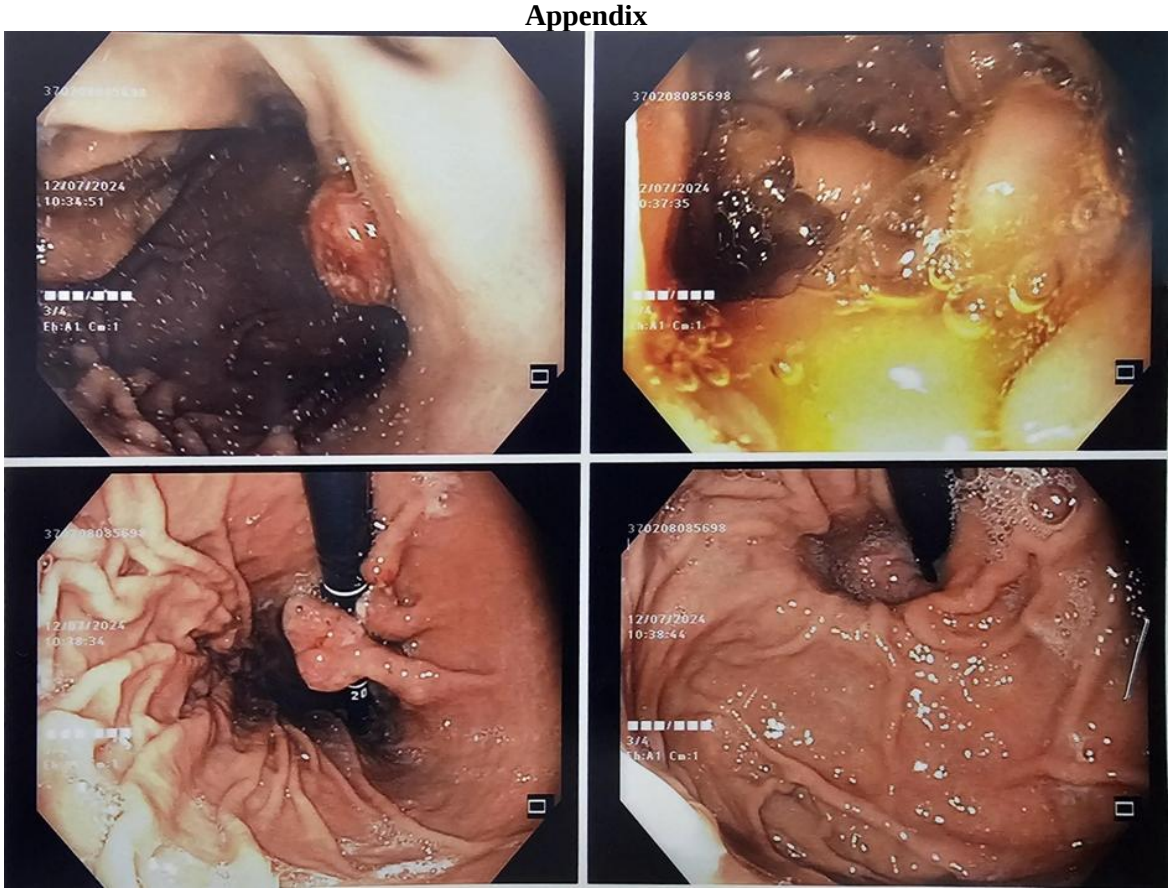

Figure 1.1: Endoscopic view showing multiple pedunculated polyps along the lesser curvature of the stomach

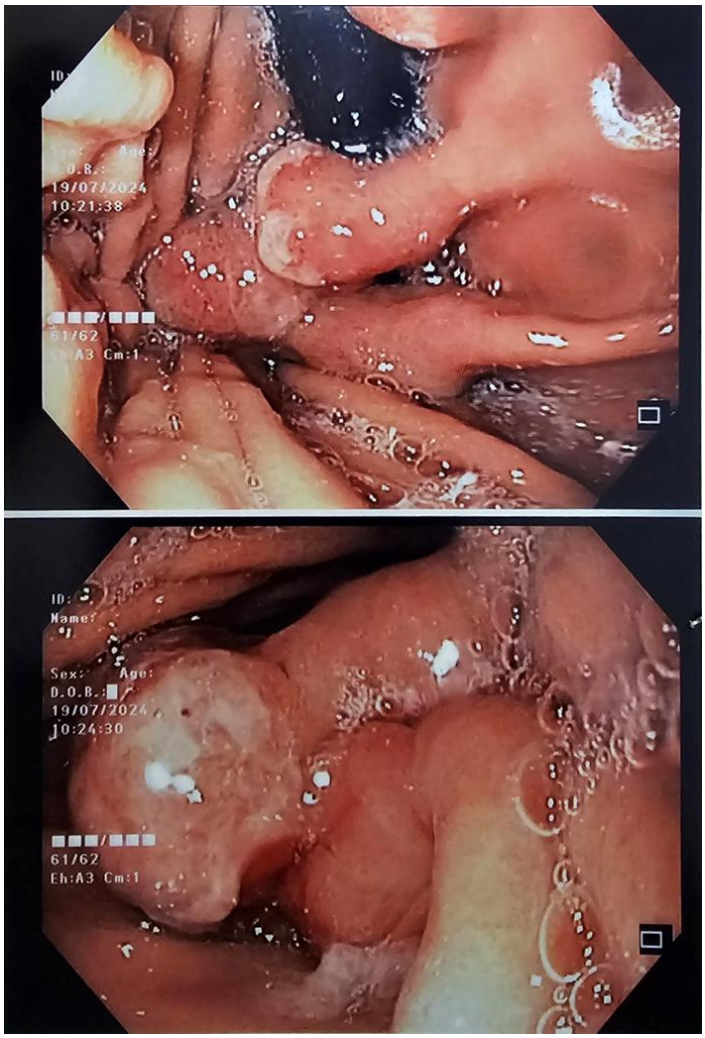

Figure 1.2: Endoscopic view of the polyps along the lesser curvature of the stomach

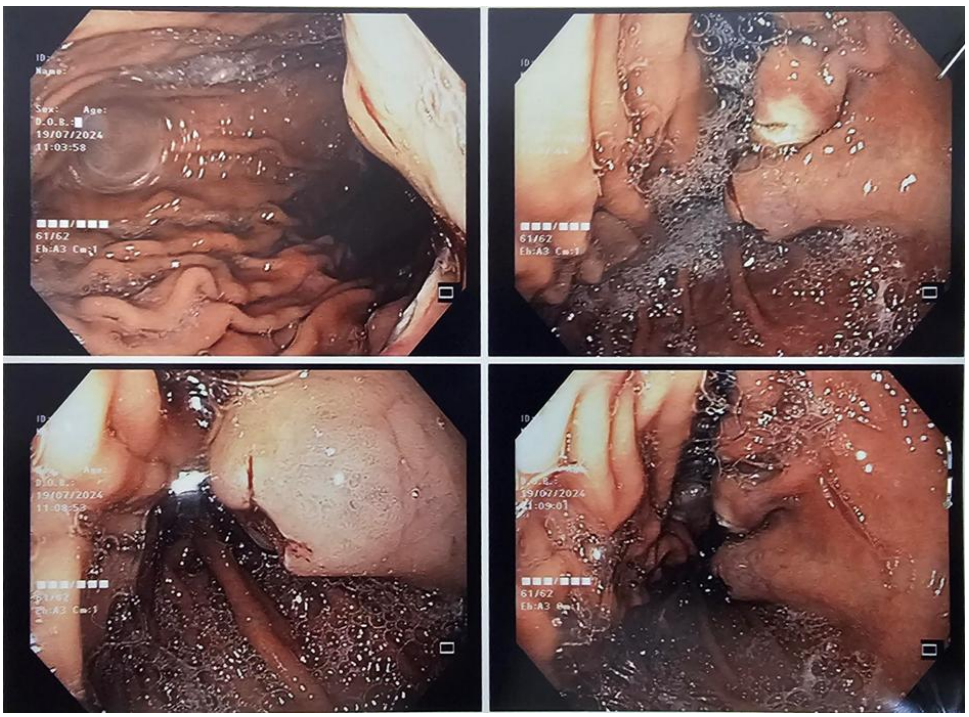

Figure 2: Endoscopic view post polypectomy

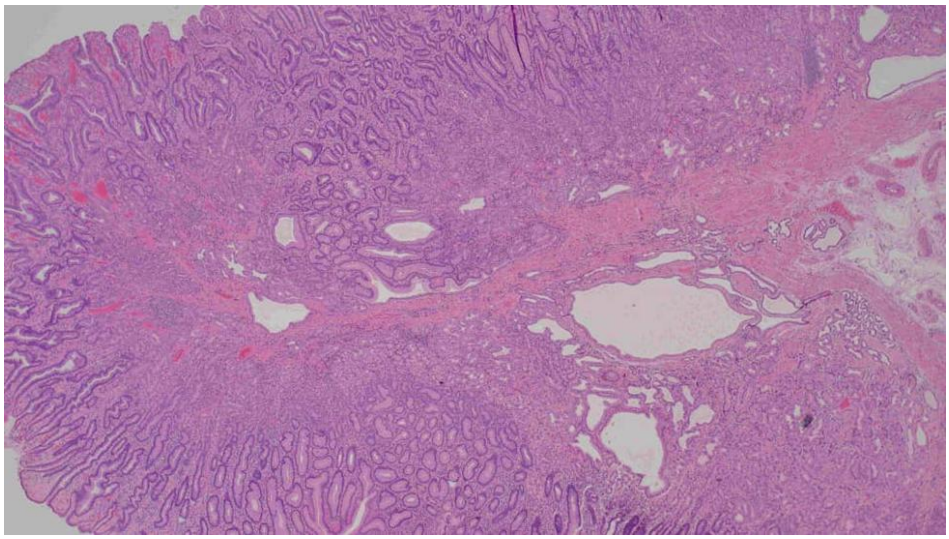

Figure 3: The dilated glands located within the lamina propria, muscularis mucosae and submucosa (H&E stain, x40 magnification)

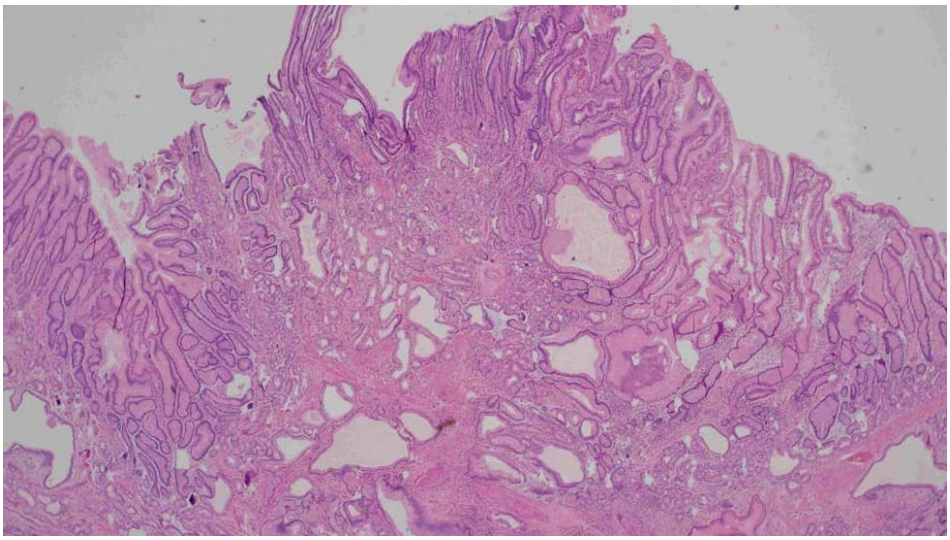

Figure 4: Elongated tortuous foveolae and hyperplastic and cystically dilated gastric glands (H&E, x100 magnification)

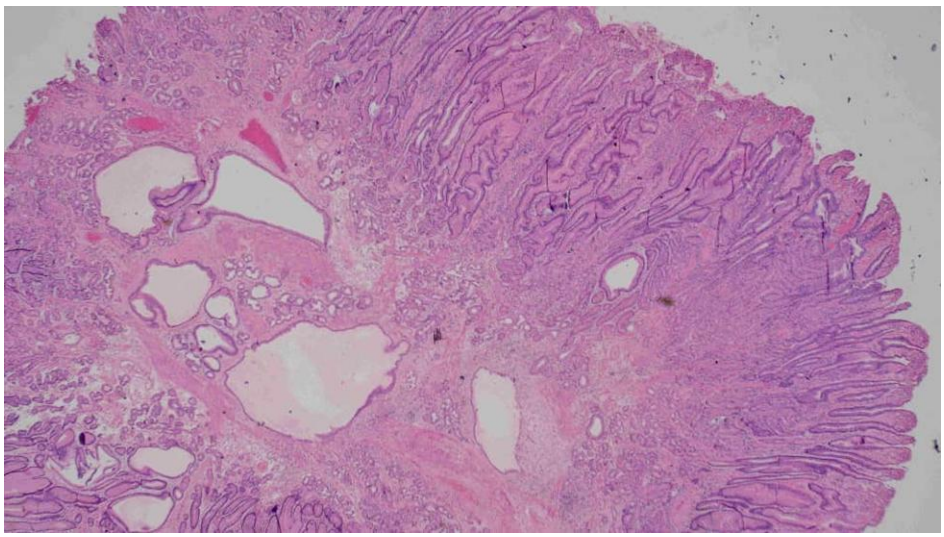

Figure 5: The dilated glands located within the lamina propria, muscularis mucosae (H&E stain, x100 magnification)

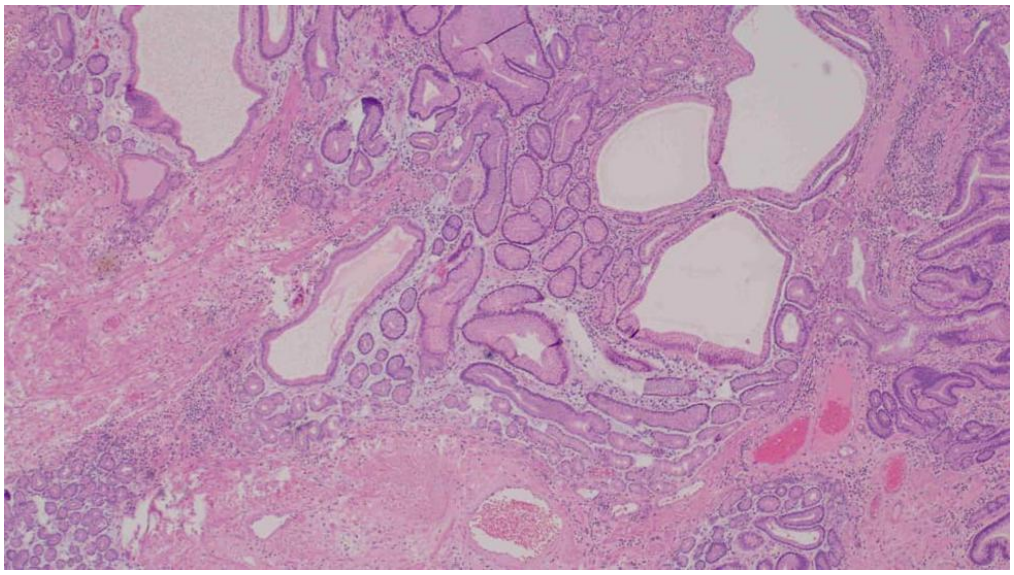

Figure 6: The cytically dilated gastric glands located in the muscularis mucosae (H&E stain, x200 magnification)