

Severe Long-Segment Ischemic Colitis Associated with an Underlying Colonic Vascular Malformation in a Patient with a Synchronous Rectal Tubulovillous Adenoma with High-Grade Dysplasia: A Case Report

Min Nay Zar Wyke^{*1}, Thant Lwyn San², Khin Aung Htun³

¹Senior Consultant Surgeon, No. (1) Military Hospital (700-Bedded), Pyin Oo Lwin, Myanmar.

¹<https://orcid.org/0009-0005-0986-1047>

²Senior Consultant Surgeon, Directorate of Medical Services, Nay Pyi Taw, Myanmar.

³Rector and Senior Consultant Surgeon, Defence Services Medical Academy, Yangon, Myanmar.

ABSTRACT

Background: Ischemic colitis is the most common form of intestinal ischemia and usually affects elderly patients with vascular risk factors. Although most cases respond to conservative treatment, severe ischemia complicated by transmural necrosis, abscess formation, or impending perforation requires emergency surgical intervention. Colonic vascular malformations are uncommon vascular lesions that have rarely been associated with ischemic injury and may present with nonspecific clinical and radiological features that overlap with colorectal malignancy or inflammatory bowel disease. We report a rare case of severe long-segment ischemic colitis involving the descending and sigmoid colon, associated with an underlying colonic vascular malformation, in a middle-aged woman with a synchronous rectal tubulovillous adenoma with high-grade dysplasia.

Case Presentation: A 48-year-old woman with a 10-year history of diabetes mellitus presented with intermittent left-sided abdominal pain, altered bowel habits, constipation, and intermittent rectal bleeding. Ultrasonography suggested a pelvic bowel mass, and colonoscopy demonstrated an irregular anorectal lesion together with a polypoid upper rectal lesion. Histopathological examination revealed chronic nonspecific colitis in the anorectal lesion and a colonic adenoma with high-grade dysplasia in the upper rectal lesion. Endoscopic snare polypectomy confirmed a tubulovillous adenoma with high-grade dysplasia without invasive carcinoma. Despite treatment, she subsequently developed recurrent abdominal pain, fever, leukocytosis, anemia, and worsening renal function. Contrast-enhanced computed tomography demonstrated marked long-segment mural thickening involving the descending and sigmoid colon with inflammatory changes and ascites. Emergency laparotomy revealed extensive edema of the descending and sigmoid colon with retrocolic abscess, patchy ischemic changes, inflammatory fixation, and impending perforation. Resection of the affected colon with primary stapled colorectal anastomosis and diverting transverse loop colostomy was performed. Histopathological examination showed chronic colonic ulceration with peritonitis, impending perforation, and underlying colonic vascular malformation without evidence of malignancy, consistent with severe long-segment ischemic colitis. The patient recovered well and underwent successful colostomy closure five months later.

Conclusion: This case highlights severe long-segment ischemic colitis involving the descending and sigmoid colon, associated with an underlying colonic vascular malformation and complicated by retrocolic abscess, peritonitis, and impending perforation in a patient with a synchronous tubulovillous adenoma with high-grade dysplasia. Early recognition, repeated clinical reassessment, and timely surgical intervention are essential for achieving favorable outcomes.

ARTICLE DETAILS

Published On:
21 July 2026

Severe Long-Segment Ischemic Colitis Associated with an Underlying Colonic Vascular Malformation in a Patient with a Synchronous Rectal Tubulovillous Adenoma with High-Grade Dysplasia: A Case Report

KEYWORDS: Ischemic colitis, colonic vascular malformation, tubulovillous adenoma, high-grade dysplasia, retrocolic abscess, impending perforation, diverting loop colostomy, case report.

Available on:
<https://ijmscr.org/>

INTRODUCTION

Ischemic colitis represents the most frequent manifestation of gastrointestinal ischemia and results from transient or sustained reduction in colonic blood flow. The disease spectrum ranges from mild mucosal injury to transmural necrosis requiring emergency surgery. Although it predominantly affects elderly individuals with cardiovascular disease, diabetes mellitus, or chronic kidney disease, younger patients with localized vascular abnormalities may also develop severe diseases. Clinical presentation is often nonspecific, consisting of abdominal pain, altered bowel habits, and rectal bleeding, making diagnosis challenging (1,2).

The descending and sigmoid colon are particularly susceptible to ischemic injury because they contain watershed areas with relatively limited collateral circulation. Typical imaging findings include circumferential bowel wall thickening, submucosal edema, and pericolic inflammatory changes. However, these radiological appearances may overlap with infectious colitis, inflammatory bowel disease, or colorectal carcinoma, occasionally delaying appropriate treatment (2,4).

Colonic vascular malformations comprise an uncommon but important group of disorders that include angiodysplasia, arteriovenous malformations, venous malformations, and other congenital or acquired vascular anomalies. Although these lesions most commonly present with occult or overt gastrointestinal bleeding, they have rarely been associated with localized vascular insufficiency and ischemic injury of the colon (6,7).

Endoscopic biopsy may not always reveal the underlying pathological process because superficial mucosal samples can miss deeper vascular abnormalities or evolving transmural ischemia. Consequently, patients may initially receive diagnoses such as nonspecific colitis or adenomatous lesions while the principal pathology continues to progress (2).

The coexistence of advanced adenomatous polyps with severe ischemic colitis is uncommon and may create diagnostic uncertainty. High-grade dysplasia within a tubulovillous adenoma carries a significant risk of malignant transformation, necessitating complete excision and close surveillance. Nevertheless, persistent or worsening symptoms after apparently successful endoscopic treatment should prompt reconsideration of alternative diagnoses (3,10).

We present a rare case of severe long-segment ischemic colitis involving the descending and sigmoid colon,

associated with an underlying colonic vascular malformation in a woman with long-standing diabetes mellitus whose initial investigations identified a synchronous tubulovillous adenoma with high-grade dysplasia but no invasive carcinoma. The subsequent clinical deterioration required emergency colectomy, and definitive histopathology established the true underlying pathology while excluding malignancy.

CASE PRESENTATION

A 48-year-old woman with a 10-year history of type 2 diabetes mellitus presented with vague left-sided abdominal pain and left iliac fossa discomfort of one week's duration. The pain was intermittent and associated with altered bowel habits, including constipation for two days and intermittent bleeding per rectum. She denied significant weight loss or previous colorectal disease. On physical examination, she was afebrile with a blood pressure of 140/90 mmHg and a pulse rate of 88 beats/minute. The abdomen was soft with normal bowel sounds and mild tenderness over the left iliac fossa without guarding or rebound tenderness. There was no pallor, jaundice, or palpable abdominal mass.

Initial abdominal ultrasonography demonstrated a hypoechoic bowel-related mass measuring approximately 2.8×1.9 cm in the pelvis posterior to the uterus, raising suspicion of a rectal or sigmoid lesion. An incidental right ovarian cyst measuring approximately $3.0 \times 2.8 \times 1.9$ cm was also identified. Laboratory investigations revealed hemoglobin of 11.1 g/dL, white blood cell count of $11.73 \times 10^9/L$, platelet count of $279 \times 10^9/L$, and erythrocyte sedimentation rate of 50 mm/hour. Renal function tests showed mildly elevated serum creatinine (1.47 mg/dL) with blood urea of 40.4 mg/dL. Electrolyte analysis demonstrated hypokalemia (3.22 mmol/L). Random blood glucose was 274.6 mg/dL and glycated hemoglobin (HbA1c) was 7.18%, indicating suboptimal glycemic control. Carcinoembryonic antigen was within the normal range at 1.68 ng/mL, while screening tests for HIV, hepatitis B surface antigen, and hepatitis C antibody were negative.

The patient underwent optimization by an endocrinologist with oral hypoglycemic agents, antihypertensive therapy, intravenous fluid resuscitation including potassium supplementation, gastrointestinal prophylaxis, oral antibiotics, probiotics, and laxatives before endoscopic evaluation. Esophagogastroduodenoscopy demonstrated mild gastroesophageal reflux disease, superficial gastric erosions, multiple superficial gastric ulcers, and mild antral gastritis (Figure 1). Colonoscopy identified two separate lesions: an irregular growth involving the anorectal region

Severe Long-Segment Ischemic Colitis Associated with an Underlying Colonic Vascular Malformation in a Patient with a Synchronous Rectal Tubulovillous Adenoma with High-Grade Dysplasia: A Case Report

and a polypoid lesion measuring approximately 2.5 cm located about 30 cm from the anal verge in the upper rectum or rectosigmoid region (Figure 3). Biopsies were obtained from both colorectal lesions as well as the gastric antrum (Figure 2 and 4).



Figure 1. OGD views showing mild GERD, superficial gastric erosions, gastric ulcers, and mild antral gastritis.

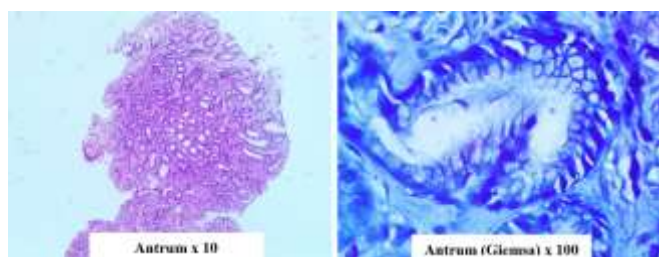


Figure 2. Histopathological examination of the gastric antral biopsy showing chronic non-specific gastritis (H&E, $\times 10$) and Giemsa stain ($\times 100$) negative for *Helicobacter pylori*.

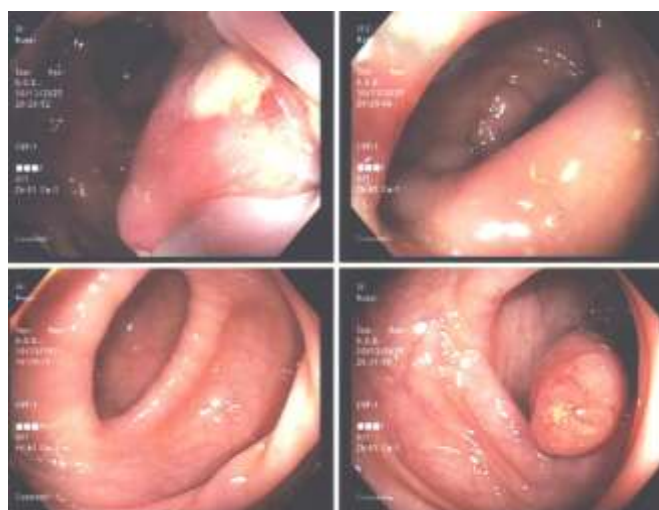


Figure 3. Colonoscopic views showing an irregular anorectal lesion and a synchronous polypoid upper rectal lesion (approximately 2.5 cm, located 30 cm from the anal verge).

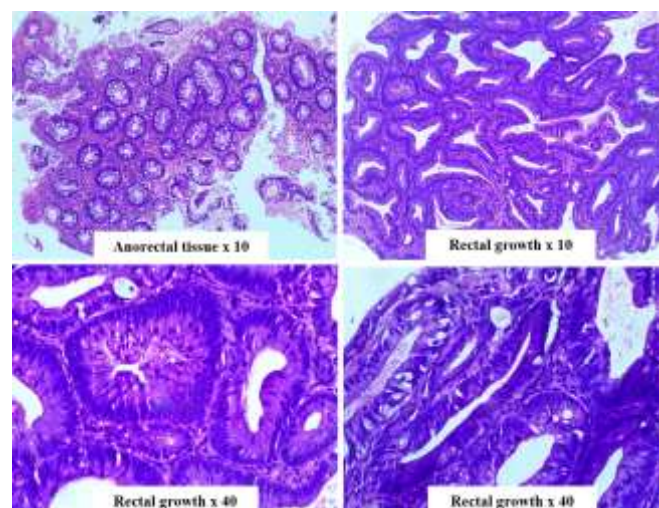


Figure 4. Histopathological examination of the initial colonoscopic biopsy showing chronic nonspecific ulceration with colitis in the anorectal lesion and a colonic adenoma with high-grade dysplasia in the upper rectal lesion.

Histopathological examination revealed chronic nonspecific gastritis in the antral biopsy (Figure 2), a colonic adenoma with high-grade dysplasia in the upper rectal lesion, and chronic nonspecific ulceration with colitis in the anorectal lesion (Figure 4). After detailed counselling regarding the premalignant nature of the adenoma, elective endoscopic snare polypectomy was performed one week later (Figure 5). Examination of the resected specimen confirmed a tubulovillous adenomatous polyp with high-grade dysplasia without evidence of invasive adenocarcinoma (Figure 6), supporting complete endoscopic excision of the neoplastic lesion.



Figure 5. Colonoscopic snare polypectomy showing removal of the upper rectal polyp and retrieval of the excised specimen.

Severe Long-Segment Ischemic Colitis Associated with an Underlying Colonic Vascular Malformation in a Patient with a Synchronous Rectal Tubulovillous Adenoma with High-Grade Dysplasia: A Case Report

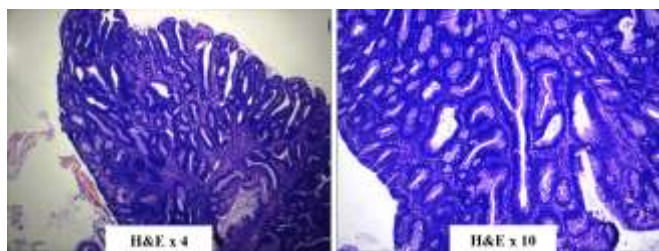


Figure 6. Histopathological examination of the polypectomy specimen showing a tubulovillous adenoma with high-grade dysplasia without invasive adenocarcinoma.

Despite removal of the adenomatous polyp, the patient continued to experience persistent left-sided abdominal pain and subsequently developed intermittent fever during follow-up approximately one month later. Physical examination demonstrated mild tenderness over the left flank and left iliac fossa without generalized peritonitis. Repeat ultrasonography revealed mild hepatomegaly, edematous bowel loops, and reduction in the size of the previously noted ovarian cyst. Plain abdominal radiography showed no pneumoperitoneum or bowel obstruction but demonstrated significant fecal loading predominantly within the right colon.

Repeat laboratory evaluation demonstrated significant clinical deterioration with hemoglobin falling to 8.9 g/dL and marked leukocytosis of $22.13 \times 10^9/L$ associated with neutrophilia. Reactive thrombocytosis ($579 \times 10^9/L$), worsening renal function with elevated blood urea (60.1 mg/dL) and serum creatinine (1.9 mg/dL), mild hyponatremia, and persistent inflammatory changes were observed. Serum amylase and calcium levels remained within normal limits. Investigations for dengue infection and enteric fever were negative. Urinalysis demonstrated proteinuria, microalbuminuria, and glucosuria without pyuria or hematuria. Owing to symptomatic anemia, one unit of whole blood was transfused.

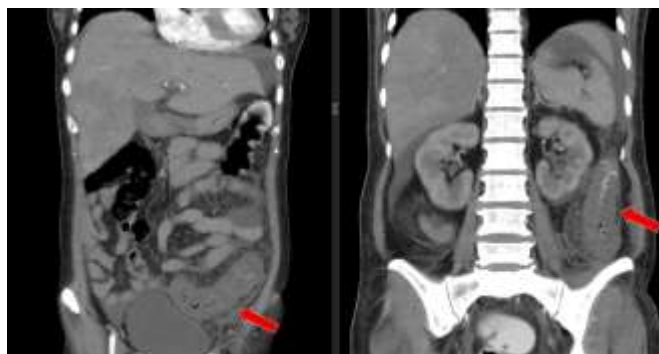


Figure 7. Coronal arterial-phase CECT abdomen showing marked long-segment mural thickening and edema of the descending and sigmoid colon with surrounding inflammatory changes (red arrows).



Figure 8. Axial CECT abdomen showing circumferential wall thickening of the descending colon with pericolic fat stranding, mural edema, and minimal posterior free fluid (red arrow).



Figure 9. Sagittal arterial-phase CECT abdomen showing marked long-segment mural thickening of the descending and sigmoid colon with bowel wall edema and pericolic inflammatory changes (red arrow).

Contrast-enhanced computed tomography of the abdomen and pelvis demonstrated marked circumferential edema and mural thickening involving a long segment of the descending and sigmoid colon measuring approximately 25 cm in length with maximal wall thickness of 1.9 cm. Pericolic fat stranding, inflammatory changes, and regional lymphadenopathy along the inferior mesenteric artery distribution were present, raising differential diagnoses of severe infective colitis and ischemic colitis (Figure 7, 8 and 9). Additional findings included hepatomegaly with focal fatty infiltration, delayed bilateral renal enhancement, and free intraperitoneal fluid in the perihepatic, perisplenic, paracolic, and pelvic spaces. Echocardiography showed preserved left ventricular systolic function (ejection fraction 65%) with only mild valvular regurgitation and grade I diastolic dysfunction.

Severe Long-Segment Ischemic Colitis Associated with an Underlying Colonic Vascular Malformation in a Patient with a Synchronous Rectal Tubulovillous Adenoma with High-Grade Dysplasia: A Case Report



Figure 10. Intraoperative view of a markedly edematous, thickened descending and sigmoid colon with fibrinopurulent serosal exudate.



Figure 12. Intraoperative view of complete mobilization of the markedly edematous long segment of the descending and sigmoid colon.

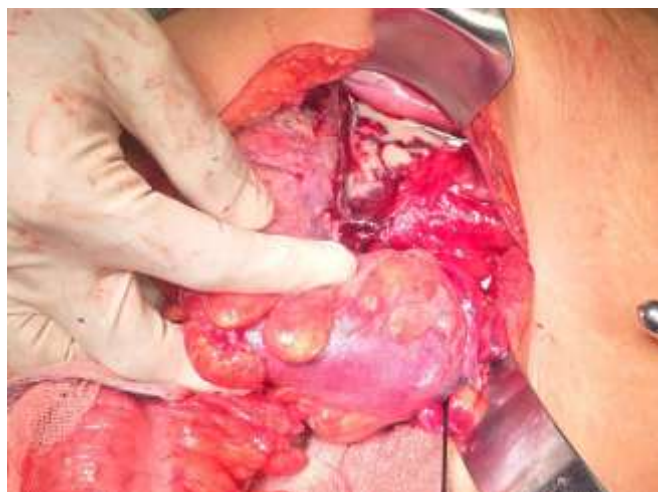


Figure 11. Intraoperative view of retrocolic abscess formation with severe inflammatory changes surrounding the diseased descending and sigmoid colon.



Figure 13. Intraoperative view of the resected left colon showing extensive bowel wall edema, inflammatory thickening, and serosal congestion.

Following multidisciplinary assessment and informed consent, emergency exploratory laparotomy was undertaken after aggressive resuscitation and administration of broad-spectrum intravenous antibiotics. Operative findings revealed a markedly edematous long segment of the descending and sigmoid colon with mural thickening, dense inflammatory serosal changes covered by fibrinous exudate (Figure 10), retrocolic abscess formation, patchy dusky discoloration consistent with serosal ischemia, inflammatory fixation to adjacent structures, and areas suggestive of impending perforation (Figure 11). No obvious exophytic mass or annular obstructing tumor was identified. Minimal ascitic fluid was present.

The procedure was technically challenging because of dense inflammatory adhesions involving the left colon and mesocolon. Following careful adhesiolysis and mobilization, the distal sigmoid colon was first divided to facilitate dissection and mobilization of the diseased segment. The distal segment was then elevated, allowing progressive proximal mobilization of the inflamed left colon and splenic flexure. After adequate mobilization, the proximal colon was divided, and the remaining adherent middle segment was subsequently resected en bloc (Figure 12). Resection of the diseased descending and sigmoid colon, including the splenic flexure, was completed (Figure 13), followed by colorectal anastomosis using an end-to-end circular stapling device (Figure 14 and 15) and proximal fecal diversion with a transverse loop colostomy (Figure 16). An appendectomy was also performed because the appendix appeared acutely inflamed. Thorough peritoneal toileting was performed with warm normal saline, and a pelvic drain was placed for postoperative drainage.

Severe Long-Segment Ischemic Colitis Associated with an Underlying Colonic Vascular Malformation in a Patient with a Synchronous Rectal Tubulovillous Adenoma with High-Grade Dysplasia: A Case Report

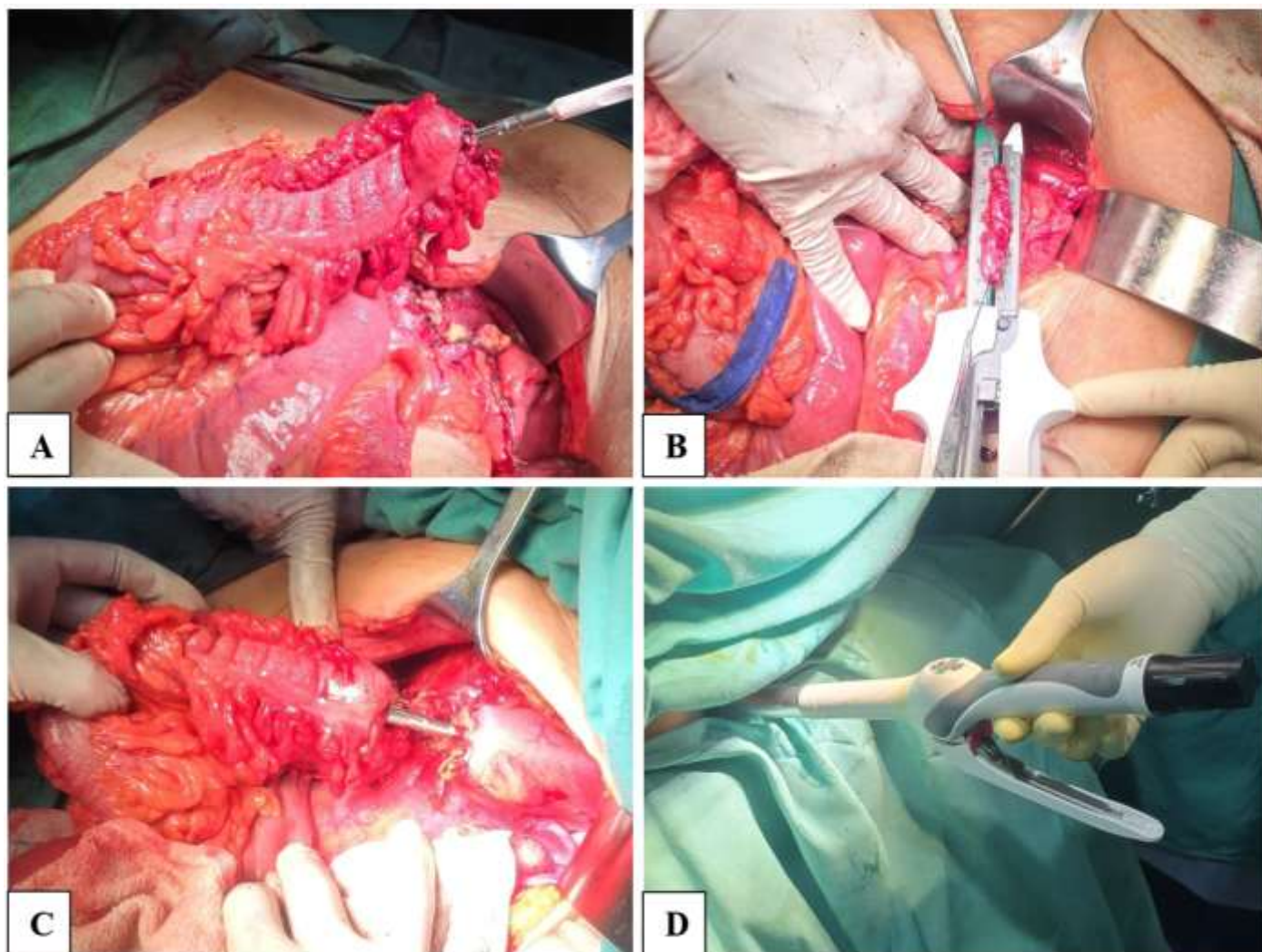


Figure 14. Intraoperative views showing colorectal reconstruction using an end-to-end anastomosis (EEA) circular stapling device following resection of the diseased descending and sigmoid colon. (A) Placement of the anvil into the proximal colon. (B) Rectal stump transection and closure using a linear cutting stapler. (C) Completed end-to-end stapled colorectal anastomosis after firing of the EEA stapler. (D) End-to-end anastomosis (EEA) circular stapling device used for colorectal reconstruction.



Figure 15. Intraoperative view of a well-perfused, tension-free end-to-end stapled colorectal anastomosis after resection of the diseased colon.



Figure 16. Intraoperative view of the completed proximal diverting transverse loop colostomy following stapled colorectal anastomosis.

Severe Long-Segment Ischemic Colitis Associated with an Underlying Colonic Vascular Malformation in a Patient with a Synchronous Rectal Tubulovillous Adenoma with High-Grade Dysplasia: A Case Report

Gross examination of the resected specimen revealed a 30 × 7 × 6 cm segment of left colon with marked mural thickening (Figure 17). On cut section, there was extensive mucosal edema, ulceration with irregular hemorrhagic areas, petechial hemorrhages, and focal areas of necrosis (Figure 18). The serosal surface was inflamed and covered with fibrinopurulent exudate. No grossly identifiable tumor was present (Figure 17 and 18).

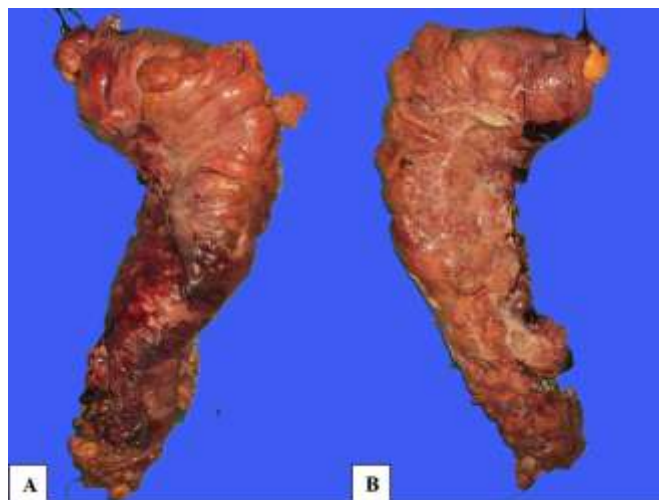


Figure 17. Gross specimen of the resected descending and sigmoid colon showing the anterior (A) and posterior (B) surfaces, demonstrating marked long-segment mural thickening, bowel wall edema, and diffuse serosal inflammatory changes.

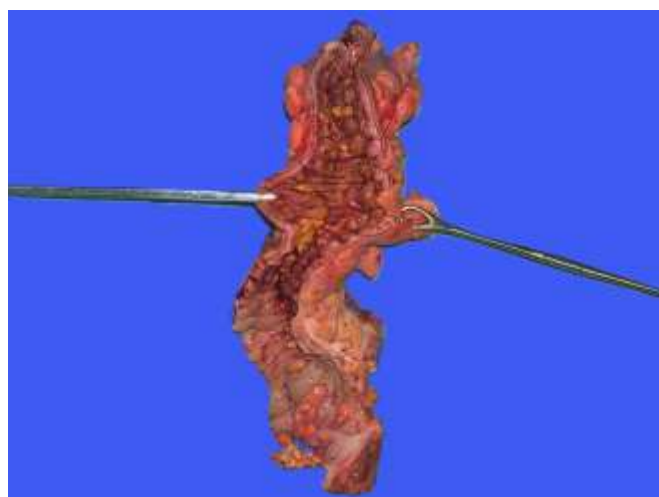


Figure 18. Gross cut section of the resected descending and sigmoid colon demonstrating diffuse bowel wall thickening, extensive mucosal edema, ulceration, irregular hemorrhagic areas, focal necrosis, and no grossly identifiable tumor.

Postoperatively, the patient remained hemodynamically stable with satisfactory urine output. Laboratory investigations demonstrated gradual normalization of renal function after electrolyte replacement and supportive care. The diverting colostomy functioned appropriately, and oral intake was progressively advanced from liquids to a full diet. Surgical site infection developed at the laparotomy

wound and responded to daily wound care. Culture of intra-abdominal pus showed no microbial growth.

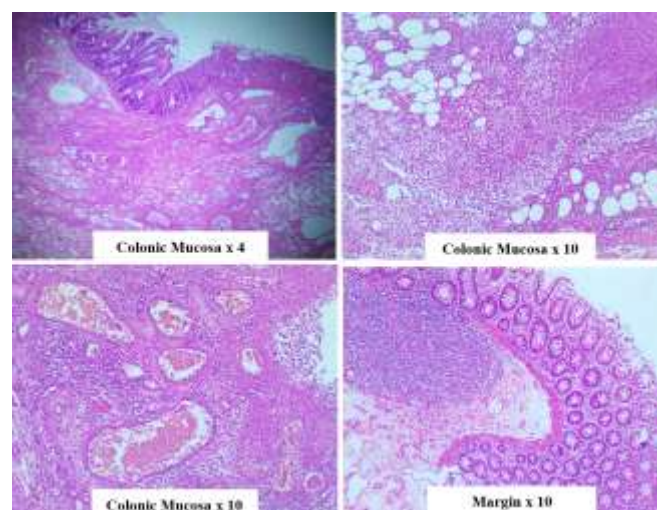


Figure 19. Histopathological examination of the resected colon demonstrating chronic colonic ulceration with peritonitis, impending perforation, and an underlying colonic vascular malformation without evidence of malignancy.

Histopathological examination of the resected specimen demonstrated chronic colonic ulceration with peritonitis, impending perforation, and an underlying colonic vascular malformation without evidence of malignancy (Figure 19). These findings, together with the operative and radiological features, were consistent with severe long-segment ischemic colitis involving the descending and sigmoid colon. Resection margins were free of ulceration, three paracolic lymph nodes exhibited angiolymphoid hyperplasia, and the appendix showed acute appendicitis with overlying peritonitis. The leukocytosis and renal impairment were resolved after source control, and the patient was discharged in good condition.



Figure 20. Distal loop contrast colonogram demonstrating a patent colorectal anastomosis.

Severe Long-Segment Ischemic Colitis Associated with an Underlying Colonic Vascular Malformation in a Patient with a Synchronous Rectal Tubulovillous Adenoma with High-Grade Dysplasia: A Case Report



Figure 21. Intraoperative views showing elective closure of the transverse loop colostomy with restoration of bowel continuity.

Follow-up demonstrated satisfactory nutritional recovery and wound healing. Five months later, distal loop contrast study confirmed a patent colorectal anastomosis (Figure 20), after which elective colostomy closure was successfully performed (Figure 21). At subsequent follow-up, she remained asymptomatic, tolerated a normal diet, resumed regular daily activities, and showed no evidence of recurrent disease.

DISCUSSION

This case illustrates an unusual presentation of severe long-segment ischemic colitis involving the descending and sigmoid colon and associated with an underlying colonic vascular malformation in a relatively young woman with diabetes mellitus. Although ischemic colitis is the most common form of intestinal ischemia, it typically affects older individuals and is frequently associated with generalized atherosclerotic disease or episodes of systemic hypoperfusion. Long-standing diabetes mellitus may have predisposed the patient to microvascular dysfunction, potentially increasing susceptibility to ischemic injury (1,2,11).

The initial presentation with left-sided abdominal pain, constipation, and intermittent rectal bleeding was clinically nonspecific. Colonoscopy correctly identified a tubulovillous adenoma with high-grade dysplasia, a premalignant lesion requiring complete excision (3,10). However, the persistence and progression of symptoms after successful endoscopic polypectomy indicated the presence of an additional concurrent pathological process. The subsequent operative and histopathological findings confirmed severe long-segment ischemic colitis associated with an underlying colonic vascular malformation, demonstrating that the adenoma and ischemic colitis were synchronous but distinct disease entities.

Radiological evaluation demonstrated extensive mural thickening involving the descending and sigmoid colon with surrounding inflammatory changes and ascites. Such

findings overlap with infectious colitis, inflammatory bowel disease, and colorectal malignancy, making definitive diagnosis difficult. Computed tomography is valuable for assessing disease extent and complications but often cannot reliably distinguish ischemia from other inflammatory processes without correlation with clinical and pathological findings (2,4,9).

The pathological diagnosis of chronic colonic ulceration with peritonitis, impending perforation, and underlying vascular malformation without malignancy represents the most distinctive feature of this case. Vascular malformations of the mesenteric or colonic circulation are uncommon and are more frequently recognized as causes of gastrointestinal bleeding than as causes of ischemic colitis. Abnormal vascular architecture may impair regional perfusion and has been reported as a rare association with ischemic injury of the colon (6,7,8). In the present case, the pathological identification of an underlying vascular malformation, together with extensive ischemic changes, suggests that it may have contributed to the development of severe long-segment ischemic colitis.

Another significant aspect was the discrepancy between superficial endoscopic biopsy findings and the final surgical pathology. Initial biopsies demonstrated chronic nonspecific colitis in one lesion and high-grade dysplastic adenoma in another, whereas colectomy specimens revealed extensive ischemic injury and vascular malformation. Superficial mucosal biopsies may fail to identify deeper vascular abnormalities or transmural ischemic changes, highlighting the limitations of endoscopic sampling in selected patients (2).

The marked leukocytosis, progressive anemia, thrombocytosis, renal dysfunction, and fever together with CT evidence of extensive bowel wall edema suggested progression to complicated disease rather than uncomplicated colitis. Operative findings of retrocolic abscess, severe edema, inflammatory fixation, patchy ischemic discoloration, and impending perforation justified emergency surgical intervention. Early source control likely prevented frank perforation and generalized fecal peritonitis (5,12).

The operative strategy of segmental colectomy with primary stapled colorectal anastomosis protected by a diverting transverse loop colostomy proved effective in this patient. Diversion reduced the consequences of potential anastomotic leakage in the setting of severe inflammation and contaminated operative fields while preserving bowel continuity for later restoration. Histopathological confirmation of negative margins and absence of malignancy further validated the appropriateness of resection (5).

The patient's favorable recovery, successful colostomy closure after five months, and return to normal daily activities emphasize the importance of multidisciplinary

Severe Long-Segment Ischemic Colitis Associated with an Underlying Colonic Vascular Malformation in a Patient with a Synchronous Rectal Tubulovillous Adenoma with High-Grade Dysplasia: A Case Report

management, serial reassessment, and individualized operative planning. Clinicians should maintain a high index of suspicion for ischemic colitis or vascular disorders in patients whose abdominal symptoms persist or worsen despite successful treatment of coexisting colorectal lesions, as synchronous pathologies may be present. This case also reinforces the indispensable role of comprehensive histopathological examination in establishing the final diagnosis and excluding occult malignancy.

CONCLUSION

This case describes severe long-segment ischemic colitis involving the descending and sigmoid colon, associated with an underlying colonic vascular malformation and complicated by retrocolic abscess, peritonitis, and impending perforation in a patient with a synchronous tubulovillous adenoma with high-grade dysplasia. The tubulovillous adenoma represented a separate synchronous premalignant lesion rather than the cause of the ischemic process. Early recognition, repeated clinical reassessment, definitive histopathological evaluation, and timely surgical intervention are essential for establishing the correct diagnosis and achieving favorable outcomes in patients with persistent or progressive symptoms despite apparently successful endoscopic management.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to the entire surgical team and operating theatre staff for their dedication, expertise, and invaluable assistance in the management of this challenging case. Their commitment to patient care and teamwork contributed significantly to the successful outcome.

I am particularly grateful to Dr. Kyaw Zay Ya, Senior Consultant Radiologist, and Dr. Nay Lin Maung, Consultant Radiologist, for their expert radiological interpretation and valuable diagnostic contributions. I also sincerely thank Dr. Kyaw Zay Ya and Dr. Nay Myo Tun for preparing and capturing the key CT images used in this case report. I am deeply indebted to Dr. Naw Mu Lah Eh Min, Senior Consultant Pathologist, for her meticulous histopathological evaluation, which was instrumental in establishing the definitive diagnosis, and for her kind permission to use the histopathological slides for this case report.

I also wish to thank the patient for providing informed consent for publication of this case and for allowing her clinical information to be shared for educational and scientific purposes.

I would like to express my deepest appreciation to my beloved wife, Dr. Zin Mar Myint Aung, Senior Consultant Microbiologist, Pyin Oo Lwin General Hospital, for her unwavering encouragement, professional insight, and continuous support throughout the preparation and publication of this case report.

Without the invaluable contributions, support, and cooperation of all those mentioned above, the successful management of this patient and the publication of this case report would not have been possible.

CONFLICTS OF INTEREST

The authors declared no potential conflict of interest with respect to authorship and publication of this article.

FUNDING

The authors received no specific funding for this case report and publication of this article.

REFERENCES

- I. Brandt, L.J., Feuerstadt, P., Longstreth, G.F., and Boley, S.J. 2015. ACG clinical guideline: epidemiology, risk factors, patterns of presentation, diagnosis, and management of colon ischemia. *Am J Gastroenterol.* 2015, 110(1): 18-44.
- II. Theodoropoulou, A., and Koutroubakis, I.E. 2008. Ischemic colitis: clinical practice in diagnosis and treatment. *World J Gastroenterol.* 2008, 14(48): 7302-7308.
- III. Kaltenbach, T., Anderson, J.C., Burke, C.A., Dominitz, J.A., Gupta, S., Lieberman, D., et al. 2020. Endoscopic removal of colorectal lesions: recommendations by the US Multi-Society Task Force on Colorectal Cancer. *Gastrointest Endosc.* 2020, 91(3): 486-519.
- IV. Feuerstadt, P., and Brandt, L.J. 2010. Colon ischemia: recent insights and advances. *Curr Gastroenterol Rep.* 2010, 12(5): 383-390.
- V. Washington, C., and Carmichael, J.C. 2012. Management of ischemic colitis. *Clin Colon Rectal Surg.* 2012, 25(4): 228-235.
- VI. Cappell, M.S. 2008. The etiology and pathogenesis of vascular disorders of the intestine. *Med Clin North Am.* 2008, 92(5): 925-944.
- VII. Gorospe EC, Leggett CL, Sun G. 2012. Inferior mesenteric arteriovenous malformation: an unusual cause of ischemic colitis. *Ann Gastroenterol.* 2012, 25(2): 165.
- VIII. Poulos, P.D., Thompson, A.C., Holz, G.S., Edelman, L.A., and Jeffrey, R.B. 2014. Ischemic colitis due to a mesenteric arteriovenous malformation in a patient with a connective tissue disorder. *J Radiol Case Rep.* 2014, 8(12): 9-21.
- IX. Green, B.T., Tendler, D.A. 2005. Ischemic colitis: a clinical review. *South Med J.* 2005, 98(2): 217-222.
- X. Rex, D.K., Boland, C.R., Dominitz, J.A., et al. 2017. Colorectal cancer screening: recommendations for physicians and patients from the US Multi-Society Task Force on Colorectal Cancer. *Gastroenterology.* 2017, 153(1): 307-323.

Severe Long-Segment Ischemic Colitis Associated with an Underlying Colonic Vascular Malformation in a Patient with a Synchronous Rectal Tubulovillous Adenoma with High-Grade Dysplasia: A Case Report

- XI. Yadav, S., Dave, M., Edakkanambeth, V.J., et al. 2015. A population-based study of incidence, risk factors, clinical spectrum, and outcomes of ischemic colitis. *Clin Gastroenterol Hepatol*. 2015, 13(4): 731-738.e6.
- XII. Mosli, M., Parfitt, J., and Gregor, J. 2013. Retrospective analysis of disease association and outcome in histologically confirmed ischemic colitis. *J Dig Dis*. 2013, 14(5): 238-243.
- XIII. Boley, S.J., Schwartz, S., Lash, J., and Sternhill, V. 1963. Reversible vascular occlusion of the colon. *Surg Gynecol Obstet*. 1963, 116: 53-60.
- XIV. Brandt, L.J., Boley, S.J. 1992. Colonic ischemia. *Surg Clin North Am*. 1992, 72(1): 203-229.
- XV. Montoro, M.A., Brandt, L.J., Santolaria, S., et al. 2011. Clinical patterns and outcomes of ischemic colitis: results of the Working Group for the Study of Ischaemic Colitis in Spain. *Scand J Gastroenterol*. 2011, 46(2): 236-246.