

Laparoscopic Management of Synchronous Ascending Colon Adenoma and Gastric Gastrointestinal Stromal Tumor (GIST)

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Abstract

Case Report

Synchronous tumors are rare occurrences that present unique diagnostic and surgical challenges. This article discusses the case of a 61-year-old male patient with a synchronous adenoma of the ascending colon and gastric gastrointestinal stromal tumor (GIST). The patient underwent successful laparoscopic right hemicolectomy and atypical gastrectomy with an uneventful recovery. This report highlights the diagnostic approach, operative strategy, and pathological findings, emphasizing the importance of a multidisciplinary approach for managing such complex cases [1-3].

Keywords: Synchronous Tumors, GIST, Adenoma, Laparoscopic Surgery, Colonoscopy, Multidisciplinary Management.

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INTRODUCTION

Synchronous gastrointestinal tumors, particularly those involving the colon and stomach, are rare but clinically significant. Gastrointestinal stromal tumors (GISTs), arising from the interstitial cells of Cajal, are the most common mesenchymal tumors of the gastrointestinal tract but rarely co-exist with adenomatous lesions of the colon. This case report details the diagnosis and management of synchronous ascending colon adenoma and gastric GIST, underscoring the benefits of minimally invasive surgery in such scenarios.

CASE REPORT

A 61-year-old male with no significant medical history was referred to our hospital after a screening colonoscopy identified a flat lesion in the cecum. Measuring 40 mm and involving the appendiceal orifice, the lesion was deemed too extensive for endoscopic resection. Biopsies confirmed a tubular adenoma with low-grade dysplasia. Concurrently, an abdominal computed tomography (CT) scan revealed a 21x18 mm solid nodule along the lesser curvature of the stomach, raising suspicion for a gastrointestinal stromal tumor (GIST) [4, 5].

Preoperative investigations provided further insight into these findings [6, 7]. Colonoscopy confirmed

the presence of a granular, flat lesion in the cecum without evidence of deep invasion. Abdominal CT described the cecal mass as measuring 26x19 mm and identified the gastric nodule as subepithelial in nature. Endoscopic ultrasound characterized the gastric lesion as a 27 mm hypoechoic tumor originating from the fourth layer of the gastric wall, consistent with GIST. Histological analysis corroborated these findings, diagnosing a tubular adenoma in the colon and a spindle-cell GIST in the stomach, with immunohistochemical staining positive for CD117 and DOG1 and a low Ki67 proliferation index of 1%.

Given these findings, the patient underwent elective laparoscopic right hemicolectomy and atypical gastrectomy [8]. [Figure 1]. The right hemicolectomy involved the resection of the cecum, ileocecal valve, and ascending colon, with meticulous dissection to preserve adjacent structures. Twenty regional lymph nodes were also excised. During the atypical gastrectomy, the gastric lesion along the lesser curvature was removed with clear surgical margins [Figure 2]. Intraoperative findings were consistent with preoperative imaging, and both procedures were completed without complications [9].

Postoperative recovery was uneventful. The patient mobilized early, advanced to a normal diet promptly, and was discharged on the fourth

postoperative day in stable condition, free of complications.

Pathological evaluation of the surgical specimens confirmed the preoperative diagnoses [Figure 3]. Macroscopic examination of the colon revealed a 3x2.5 cm polypoid lesion near the ileocecal valve, with no evidence of transmural involvement. Microscopic analysis identified a tubular adenoma with low-grade dysplasia, with all surgical margins and lymph nodes (n=20) free of malignancy. Examination of the stomach specimen revealed a 2.7 cm submucosal white nodule along the lesser curvature, which was histologically consistent with a spindle-cell GIST [Figure 4]. The

tumor exhibited low mitotic activity (1-2 mitoses per 10 high-power fields), no necrosis, and a low Ki67 index of 1%. Immunohistochemical staining confirmed CD117 and DOG1 positivity, supporting the diagnosis of a low-risk GIST [Figure 5].

This case highlights the importance of comprehensive diagnostic evaluation and meticulous surgical planning in the management of synchronous gastrointestinal lesions. The use of minimally invasive laparoscopic techniques proved instrumental in achieving favorable outcomes with minimal morbidity, underscoring their value in modern surgical practice.

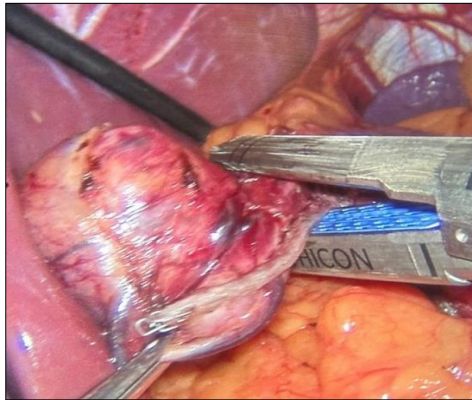


Figure 1: Laparoscopic atypical gastrectomy for the removal of a gastric GIST

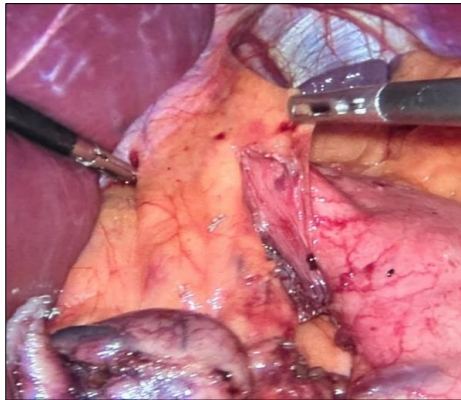


Figure 2: Post-resection view of the gastric specimen following the atypical gastrectomy



Figure 3: The excised gastric tissue from the atypical gastrectomy showing the resected gastric tissue with the GIST clearly excised

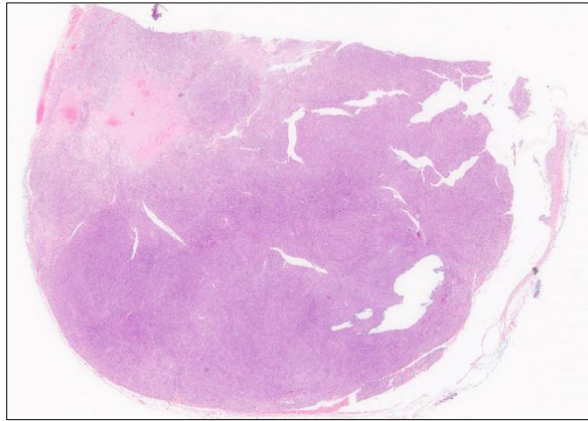


Figure 4: Histological section (H&E stain) of well-circumscribed GIST with heterogeneous cellularity and areas of stromal alteration

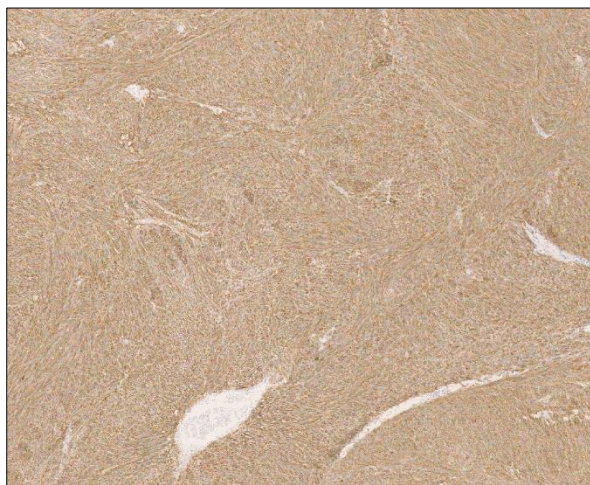


Figure 5: Histological image of a GIST showing spindle-shaped cells in fascicles. Immunohistochemistry likely highlights CD117 (c-KIT) and DOG1 positivity, characteristic of GISTs

DISCUSSION

The co-occurrence of adenomas and GISTs is rare, with few documented cases in literature [10, 11]. This synchronous presentation likely represents coincidental pathology rather than a shared pathophysiological mechanism. This case emphasizes the value of comprehensive diagnostic workups, including colonoscopy, CT, and endoscopic ultrasound, to characterize lesions preoperatively [12, 13]. Laparoscopic surgery remains the gold standard for the management of early-stage GISTs and localized colonic adenomas, offering superior visualization, minimal invasiveness, and faster recovery [14, 15].

Pathological examination confirmed benign histological features of both tumors, eliminating the need for adjuvant therapy. The patient remains under regular follow-up for recurrence monitoring, as recommended for GISTs.

CONCLUSION

This case highlights the successful laparoscopic management of synchronous ascending colon adenoma and gastric GIST. Early detection and a tailored surgical approach are critical for optimal outcomes. Multidisciplinary collaboration, including gastroenterologists, radiologists, surgeons, and pathologists, ensures precise diagnosis and treatment in complex synchronous tumor cases [16, 17].

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DECLARATIONS

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Ethical Approval: Not required

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