

## Case Report

# Rare case of adenocarcinoma of sigmoid colon with gastrointestinal stromal tumors

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### ABSTRACT

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal tract but account for only about 1% of gastrointestinal neoplasms. They usually occur as solitary lesions, and their synchronous occurrence with other primary malignancies is extremely rare. We report a 35-year-old female who presented with per rectal bleeding and lower abdominal pain. Imaging and endoscopy revealed an obstructive sigmoid colon mass and an incidental gastric lesion. Biopsy confirmed moderately differentiated adenocarcinoma of the sigmoid colon, while upper gastrointestinal endoscopy suggested a gastric submucosal tumor. The patient underwent laparoscopic-assisted sigmoid colectomy with partial gastrectomy in the same session. Histopathology confirmed adenocarcinoma of the sigmoid colon with mucinous features and a synchronous gastric GIST. The coexistence of GIST with colorectal adenocarcinoma is rare and can complicate diagnosis and management. Careful radiological and endoscopic evaluation is important for detecting concurrent lesions. Surgical resection remains the mainstay of treatment, and recognition of synchronous tumors is essential for optimizing outcomes.

**Keywords:** Gastrointestinal stromal tumor, Sigmoid colon adenocarcinoma, Synchronous tumors, Gastrointestinal malignancy

### INTRODUCTION

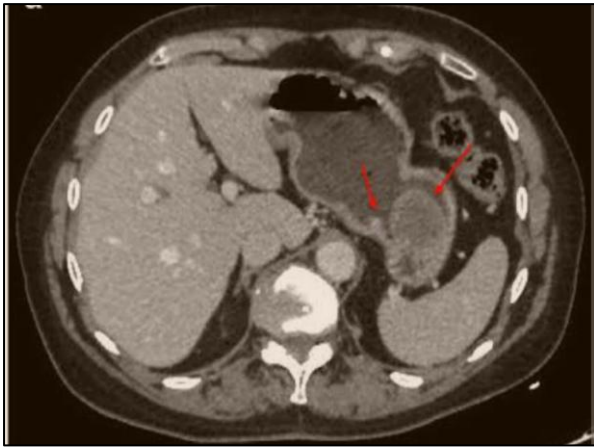
Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal (GI) tract, accounting for nearly 1% of all GI neoplasms, with an incidence of approximately 7–20 cases per million annually.<sup>1</sup> They originate from the interstitial cells of Cajal and are typically solitary lesions with non-specific symptoms such as abdominal discomfort, early satiety, or gastrointestinal bleeding.<sup>2</sup> Histopathological confirmation is achieved through immunohistochemistry markers like CD117, CD34, DOG1, and others.<sup>3</sup> While GISTs are usually isolated, their synchronous occurrence with other primary GI adenocarcinoma, is exceedingly rare and poses both diagnostic and therapeutic challenges.<sup>4</sup> The coexistence of tumours with distinct histogenesis raises important questions regarding shared genetic pathways.<sup>5</sup> Here, authors report a rare case of synchronous

adenocarcinoma of the sigmoid colon and a gastric GIST in a young female patient, managed with a combined laparoscopic surgical approach.

### CASE REPORT

A 35-year-old female presented with complaints of per rectal bleeding and vague lower abdominal pain persisting for 15 days. An initial abdominal ultrasound suggested a neoplastic lesion in the sigmoid colon, prompting further evaluation with contrast-enhanced computed tomography (CECT). Imaging revealed a long segment (10 cm) circumferential mass in the sigmoid colon with wall thickening (18 mm) and significant luminal narrowing, though without proximal bowel dilatation. Additionally, mesocolic lymphadenopathy suggested regional lymph node metastasis. Incidentally, CECT also showed multiple nodular lesions along the

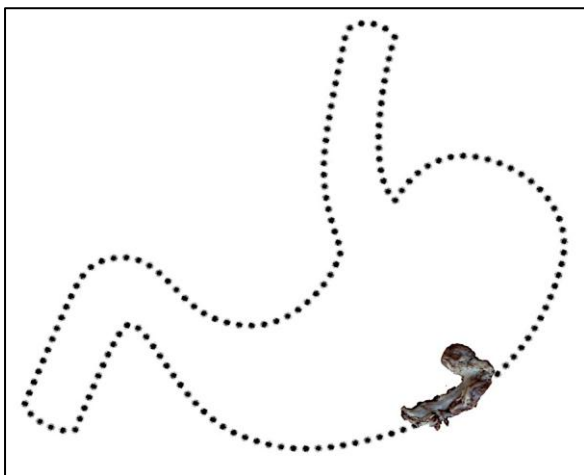
greater curvature of the stomach, presumed to be gastric polyps in the absence of perigastric lymphadenopathy (Figure 1).



**Figure 1: CECT showing multiple nodular lesions along greater curvature.**



**Figure 2: Colonoscopy demonstrated a large obstructive polypoidal growth in the sigmoid colon.**



**Figure 3: Depicting lesion along the greater curvature.**

An upper gastrointestinal endoscopy revealed a ~4 cm polypoidal lesion on the greater curvature of the stomach, with a central depression suggestive of a gastric GIST. Colonoscopy demonstrated a large obstructive polypoidal growth in the sigmoid colon, beyond which the scope could not be advanced (Figure 2). Multiple biopsies from the colonic lesion confirmed high-grade villous adenomatous dysplasia.

The patient was planned for a single-session laparoscopic-assisted partial gastrectomy with sigmoid colectomy. Histopathological examination of the gastric lesion showed a well-circumscribed 1×1 cm submucosal tumor consistent with a well-differentiated grade 2 neuroendocrine tumor (NET) involving mucosa and submucosa (pT2NX). The sigmoid colon specimen revealed moderately differentiated adenocarcinoma with mucinous features (~10%), with no nodal metastasis (pT3N0). The patient has been under regular follow-up, and at one-year post-surgery she remains asymptomatic with no evidence of recurrence.

## DISCUSSION

GISTs are the most common type of primary mesenchymal tumor of the GI tract, clinical manifestations usually are non-specific, such as early satiety, nausea or vomiting, or more severe, abdominal pain or GI bleeding.<sup>6</sup> GISTs have the potential to metastasize, either by blood circulation or peritoneal seeding, depending on tumor size, frequency of mitoses, presence of necrosis.<sup>7</sup> They are frequently detected incidentally by CT scan or ultrasound but the definite diagnosis is positive immuno-stain of CD117 (c-kit protein) (95% of tumors), CD34 (60–70% of the tumors) or other markers (Dog-1, S-100, actin, desmin) under microscopic pathologic examination.<sup>8</sup> The primary treatment of GISTs is the surgical resection combined with target therapy (Imatinib).<sup>9</sup>

GISTs are generally considered solitary tumors, but have been described in a few studies to coexist with other neoplasms, ranging from 4.5 to 33%.<sup>8</sup> This rare occurrence often poses diagnostic and therapeutic challenges to clinical physicians, since the 5-year survival rate in coexistence of other malignancies is lower than GISTs alone (69.1 vs. 80.9%).<sup>10</sup> The coexistence of malignancies of different histological origin raises questions regarding the pathophysiology of GI cancer. One hypothesis is that c-kit gene mutation that activates KIT receptor tyrosine kinase is essential for GISTs development, but also may be associated with increased cellular proliferation in several malignancies, including colorectal adenocarcinoma.<sup>11</sup>

## CONCLUSION

This rare case of synchronous sigmoid colon adenocarcinoma and GIST highlights the importance of meticulous evaluation by physical examination and

imaging studies for concurrent malignancies, improve patient prognosis.

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