

# Cecal GIST Presenting as a Fecalith: A Case Report and Literature Review

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## Abstract

A fecalith is a mass of accumulated hardened fecal matter that commonly arises in the sigmoid colon, the rectum and very rarely in the small intestine. Fecaliths may often present as benign obstructions and can lead to more serious complications such as persistent obstruction leading to bowel perforation. As a result, fecaliths may present similarly to malignant lesions that may be fixated to the gastrointestinal mucosa, such as gastrointestinal stromal tumors (GIST).

**Keywords:** Cecal mass • Fecalith • Gastrointestinal stromal tumor

**Abbreviations:** HIV: Human Immunodeficiency Virus • GERD: Gastroesophageal Reflux Disease • s/p: Status Post • ED: Emergency Department • Bmp: Beats Per Minute • Bmp: Breaths Per Minute • CT: Computerized Tomography • Post-op: Post-Operation • ICC: Interstitial Cells Of Cajal

## Introduction

GISTs are rare, soft tissue sarcomas that can occur anywhere along the gastrointestinal tract. These tumors are predominantly seen in males in the fifth to sixth decades of life and are typically located in the jejunum or ileum. The incidence of GISTs is estimated at one to two per 100,000 and a prevalence of 13 people per 100,000. It is well documented in the literature that a fecalith can mimic a GIST and other colonic tumors. However, to the best of our knowledge, this report serves as the first documented case of a fecalith discovered in association with a GIST, and even more unique given it was found in the cecum. Thus, the seemingly benign presentation of a fecalith may be a more concerning manifestation of malignancy, such as in this case, and consequently prompts further workup [1-3].

## Case Report

A 58-year-old Hispanic male with a past medical history of HIV, GERD, obstructive eosinophilic colitis, melanoma, and diverticulitis s/p Hartmann's procedure in 2017, presented to the emergency department with a week of right lower quadrant abdominal pain. At the time, he denied any associated fever, chills, nausea, vomiting, diarrhea, change in bowel habits or significant weight loss. Of note, the patient's family medical history was significant for known GIST in his mother, brother, maternal uncle, and cousin.

On physical examination, the patient was afebrile with stable vitals, alert, oriented and in mild acute distress secondary to significant abdominal pain. The abdominal exam was remarkable for a well-healed midline scar and severe pain elicited on deep palpation of the right lower quadrant. A CT abdomen/pelvis scan was performed in the ED that was significant for colonic wall thickening and a "mass-like structure" in the cecum extending to the level

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of the ileocecal valve, enlarged pericolic lymph nodes and inflammation. Laboratory studies revealed no leukocytosis but a slight left shift. Tumor markers acquired included normal carcinoembryonic antigen, CA 19-9, and CA-125. The patient was admitted for further management of the cecal mass.

Inpatient workup included a colonoscopy that appeared to show a large fecalith in the cecum. After a failed attempt at removing the fecalith during the colonoscopy, fecalith resection was planned. Subsequently, the patient underwent laparoscopic hand-assisted right colectomy. The surgery was successful without complications, and the patient's postoperative course was unremarkable with good recovery. He remained hemodynamically stable, tolerated a regular diet with recovery of bowel function, and was discharged home with home health care on postoperative day seven.

The pathology report indicated that the "mass-like structure" was a GIST. The tumor was of spindle cell type, multifocal, involving up to 5 cm of the bowel wall with the largest nodule out of 3 measuring 1 cm, 2 mitoses per 5 mm<sup>2</sup>, Ki 67 was less than 5%, low grade, low to moderate risk, pT2N0. A GIST neotype profile indicated the tumor was of the KIT D820G (Exon 17) missense mutation variant. The surgical margins and one lymph node biopsied were negative and the disease was in the low to moderate risk category based on the size and mitotic activity. Close surveillance with CT scans every 3 months in the initial period was recommended to the patient. Furthermore, given the patients' pertinent family history, it was decided the patient would benefit from oncology follow-up for adjuvant imatinib.

## Results and Discussion

This case report is unique given the associated presentation of a fecalith with a GIST in the cecum. While the patient underwent a thorough workup, the true etiology of his abdominal pain was not realized until surgery. This was likely due to the large fecalith that masqueraded the presentation of the GIST (Figures 1 and 2).

Distinguishing a benign from a malignant lesion in the cecum can present as a challenge. Although colonoscopy with biopsy is the gold standard for investigating and diagnosing a lesion, it may often be non-diagnostic. In fact, studies show that incomplete colonoscopy examinations occur in up to ten percent of patients [4]. Some complicating factors include the intestinal tortuosity and redundancy, fixation of colonic loops to the peritoneal cavity, presence of strictures, obstructing masses, and limitations in scoping tools. The colonoscopy performed on this patient revealed a fecalith-appearing-mass adherent to the mucosal wall, indurated and difficult to remove via Roth net and biopsy forceps. In our case, surgical exploration was both diagnostic and

therapeutic [5]. In addition to diagnostic testing limitations particularly in cecal lesions, right-sided lesions are more challenging to detect due to the nature of the lesion. Right-sided colonic lesions tend to be exophytic causing nonspecific signs of a gastrointestinal bleed and anemia, while left-sided colonic lesions are often infiltrative and cause obstructive symptoms [6]. For this reason, right-sided colon cancers portend a higher mortality rate than left-sided colon cancers in patients [7]. In our case, the location and diagnostic modality used to diagnose the fecalith-appearing-mass presented as a challenge.

This case presents an atypical presentation of a GIST. GISTs usually appear as hyperdense enhancing solid masses on contrast-enhanced CT. On rare occasions, they may appear heterogeneous if there is necrosis, hemorrhage, or degeneration within a very large tumor [8]. Instead, this patient's tumor was covered by a hypodense mass in the setting of diffuse asymmetric colonic wall thickening with pericolonic inflammation. Furthermore, GIST pathology usually contains GI mucosa overlying the lesion, whereas this tumor had a light brown, friable consistency. Additionally, symptomatic GISTs tend to ulcerate and bleed, whereas this patient's tumor was not bleeding and instead presented with typical symptoms more consistent of obstruction secondary to a large fecalith.

This unique presentation of a cecal GIST in association with a fecalith prompts inquiry into its underlying pathophysiology. It is widely accepted that interstitial cells of Cajal (ICC) are pacemaker cells of the gut and probable progenitor cells of GISTs [9]. ICC is important players in the symphony of gut motility. They have a very significant physiological role orchestrating the normal peristaltic activity of the digestive system. Absence, reduction in number or altered integrity of the ICC network may have a dramatic effect on GI system

motility [10]. One of the three most important risk factors for the formation of a fecalith includes intestinal hypomotility [11]. Thus, it presumed that the effect ICC cells have on GI motility can lead to the formation of a fecalith.

It is feasible that atypical ICC inhibited the normal passage of stool and thereby led to the formation of a fecalith. Thus, the seemingly benign presentation of a fecalith may be a more concerning manifestation of tumors such as GISTs and consequently prompt further workup.

## Conclusion

This case report augments the literature as the first documentation of a cecal GIST associated with a fecalith. Diagnosis was challenging in this case due to the masquerading effect of the overlying fecalith. The pathophysiology was surprising given the unique location and presenting symptoms of this GIST. The clinical relevance of this case report lies in the ability to share the diverse ways that GISTs may be present to hopefully expedite the recognition and appropriate treatment of similar cases.

## Conflict of Interest

The authors have declared that no competing interests exist.

## Human Ethics

Consent was obtained by all participants in this study

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**Figure 1.** Surgical resection of the fecalith in the cecum.



**Figure 2.** A 5 cm mass, later identified as a GIST, was present within the core of the fecalith.

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