Rare Case of Mesenteric GIST Causing Large Bowel Obstruction

Maria Miglio, DO, Hunter Hays, DO, Adewunmi Adeyemo, MD, Sara Glendinning, DO
Dearborn, Michigan

Introduction

- Gastrointestinal stromal tumors (GISTs) are non-epithelial neoplasms of the gastrointestinal tract (GI) that arise from interstitial cells of Cajal [1].
- Interstitial cells of Cajal express c-Kit (CD117), which is used to differentiate GISTs from similar appearing tumors like leiomyosarcomas [1].
- They can present anywhere in the GI tract, but they are most commonly found within the stomach. They can oalso ccur outside of the GI tract as extra-gastrointestinal stromal tumors (EGISTs) [2].
- GISTs and EGISTs have similar biology and behavior; the key difference is their location [2].

Case Presentation

- 75-year-old male presented with constipation and abdominal pain for one week. He was tolerating diet without nausea or vomiting. He was passing flatus and had non-bloody diarrhea day of presentation.
- Abdomen was soft, distended, with generalized tenderness, and without signs of peritonitis.
- Patient was hemodynamically stable with a mild leukocytosis and acute kidney injury.
- CT a/p showed a large, hyperdense mass in the RLQ adjacent to the terminal ileum, suspicious for hemorrhagic neoplasm, small amount of hemoperitoneum, and mildly distended small bowel loops mostly reflective of ileus [Image 1].
- Patient underwent exploratory laparotomy. Intraoperatively, a large loculated cystic-appearing mass emanating from the mesentery of the terminal ileum was identified and transected. An ileocecectomy was performed given the mesenteric involvement of the mass. A primary ileocolonic anastomosis was created.
- Pathology demonstrated a GIST of the terminal ileum and cecum mesentery, spindle cell type, 11.5 cm, high risk, involving the resection margin, 7 lymph nodes negative, DOG1 (+), CD117 (+), CD34 (+).
- Patient was referred to oncology, and he was started on Imatinib for three years.
- Repeat colonoscopy eight months later demonstrated mild scattered diverticulosis, one polyp measuring 5-9mm near the ileocolic anastomosis. Pathology demonstrated tubular adenoma.

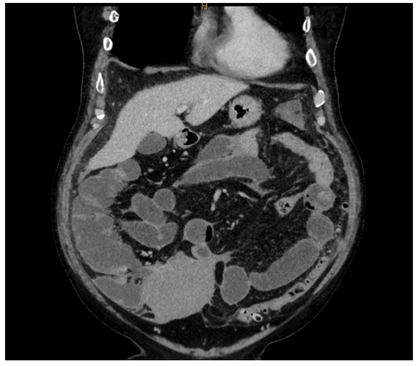

Image 1: Patient's CT abdomen/pelvis on presentation.

Discussion

- EGISTs occur outside of the GI tract, most commonly in the omentum, mesentery, liver, pancreas, and retroperitoneum [3].
- Two theories exist for their origin: mural tumors with extensive extramural growth losing their connection with the gut wall; and arising from a common precursor cell of the interstitial cells of Cajal [3].
- Mesenteric GISTs often have more room to grow and will present later causing them to have a worse prognosis [3].
- The worse prognosis is not due to it's location outside of the GI tract. It is most likely due to their larger size and higher mitotic index [3].
- There is no difference in the workup and management for GISTs and EGISTs.
- Best imaging modality for diagnosis and postoperative monitoring is CT [2].
- Mainstay of treatment is with complete resection; lymphadenectomy is not required due to low rate of metastasis to lymph nodes [4].
- Adjuvant therapy is given to patients with moderate or high risk of recurrence, which is Imatinib for three years [4].
- Risk of recurrence is based off mitotic index and tumor size [4].

Conclusion

- GISTs and EGISTs can present similarly, and treatment is the same.
- EGISTs often are larger at initial diagnosis, leading to a worse prognosis.

References: [1] Arellano-Gutiérrez, G., Martínez-Aldrete, L. F., Pérez-Fabián, A., & Maldonado-García, E. L. (2020). Primary extra-gastrointestinal stromal tumor (EGIST) of the mesentery: Case report and review of literature. *Annals of Medicine and Surgery*, *60*, 480–483. https://doi.org/10.1016/j.amsu.2020.11.020; [2] Feng, F., Feng, B., Liu, S., Liu, Z., Xu, G., Guo, M., Lian, X., Fan, D., & Zhang, H. (2017). Clinicopathological features and prognosis of mesenteric gastrointestinal stromal tumor: Evaluation of a pooled case series. *Oncotarget*, *8*(28), 46514–46522. https://doi.org/10.18632/oncotarget.14880; [3] Gheorghe, G., Bacalbasa, N., Ceobanu, G., Ilie, M., Enache, V., Constantinescu, G., Bungau, S., & Diaconu, C. C. (2021). Gastrointestinal stromal tumors—a mini review. *Journal of Personalized Medicine*, *11*(8), 694. https://doi.org/10.3390/jpm11080694; [4] National Comprehensive Cancer Network. (2026, January 13). *NCCN Clinical Practice Guidelines in Oncology: Gastrointestinal Stromal Tumors. Version 1.2026*. . NCCN. https://www.nccn.org/professionals/physician_gls/pdf/gist.pdf