A Case Study: Chronic Symptomatic Exophytic Gastric Mass: An Organizing Hematoma

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Introduction

Subepithelial tumors, SETs, are frequently encountered in the GI tract, the majority of which are asymptomatic and discovered incidentally. Characterized by location, size, and echogenicity, the gold standard of diagnosis for SETs is histology and immunohistochemistry, usually performed with fine or core needle biopsy by gastroenterologists. There is a spectrum of imaging modalities to diagnose these tumors with two major ones being esophagogastroduodenoscopy (EGD) and endoscopic ultrasound (EUS). EGD is suboptimal in differentiating intraluminal lesions from extraluminal compressional SETs.

Case Description

A 64 year-old female presented to the Emergency Department with nausea, non-bloody emesis, and worsening epigastric abdominal pain for 24 hours. The pain was characterized as sharp, 10/10 severity and constant with about 6-7 bouts of emesis after her last meal the day prior. She had a non-bloody bowel movement the day prior and was passing flatus. Initial work up was significant for acute on chronic kidney injury and CT abdomen/pelvis without IV contrast showed a large 12 cm mesenteric neoplasm arising from the transverse mesocolon without evidence of obstruction. Differentials diagnoses for an exophytic mass at the time included GISTs, non-GIST sarcomas, lipoma, leiomyoma, nerve sheath tumors (gastric schwannoma), glomus tumor, desmoid, hemangioma, and inflammatory myofibroblastic tumor.

Diagnostic Studies

- CT Chest: Incidental gastric mass identified
- CT A/P: Exophytic mass on greater curvature
- MRI abdomen: hypo-vascular mass off greater curvature, separate from pancreas or stomach
- EGD: 4 cm hiatal hernia, 2 erosions, mass effect on D2
- EUS: Large hypoechoic mass extending from 4th layer off the greater curvature extending outwards..

Management and Outcomes

Fine needle aspiration was performed over two passes from the stomach. No obvious core tissue was seen and a thick maroon color clot-like material was removed during the process. A second fine needle aspiration was performed from D3, similar material was obtained, and sent to pathology. Patient improved after bowel rest and was discharged with follow up with GI. Pathology showed adipose tissue with rare atypical cells and organizing blood fragments that were insufficient for diagnosis. At GI clinic she had unrelenting abdominal pain which was 10/10, sharp, in the epigastric region radiating to the back with nausea. Sent to the ED where she underwent a repeat CT scan that showed a mild interval increased size of a hyperdense perigastric mass, possibly a hematoma given her recent biopsy. General surgery consulted and taken back to OR a gross 1 cm margin was taken from the stomach due to a working theory of the mass being GIST. Progressed well and seen in clinic with no complications.

Images



Figure 1: CT abdomen/pelvis with IV contrast - Large exophytic mass arising from the greater curvature of the stomach. Gastrointestinal stromal tumor favored.

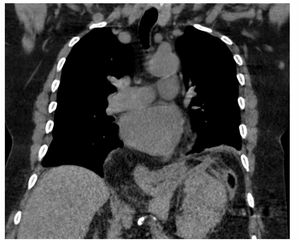
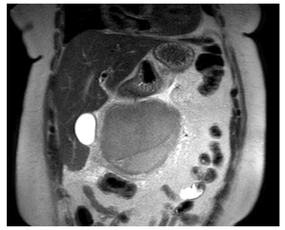
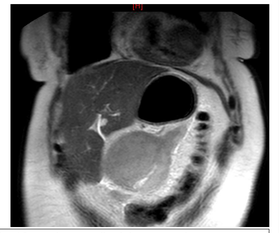


Figure 2: CT chest without contrast – performed four years prior for another separate indication with incidental finding of abdominal mass captured in upper abdominal cuts of imaging





Figures 3 & 4: MRI abdomen with & without contrast- 13 x 10 cm circumscribed, hypovascular mass located inferior to the stomach with adjacent fat stranding, possibly arising from the greater curvature of the stomach. Distinct from the pancreas and colon. Likely differential and considerations include gastrointestinal stromal tumor, among other etiologies such as leiomyoma.



Figure 5: CT abdomen/pelvis without contrast - Mild interval increased size of a hyperdense perigastric mass, recently biopsied. Previously favored to represent an exophytic gastric neoplasm given presence on prior CT chest exam from 2015.

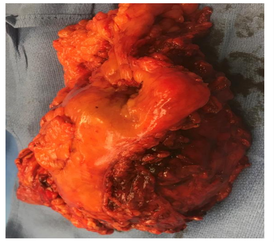


Figure 6: En-bloc resection of mass adherent to stomach and transverse colon mesentery.

Discussion

There have been multiple reports regarding trouble shooting upper abdominal masses with inconclusive biopsies and misdiagnosed imaging modalities that have undergone definitive surgical intervention and noted to have hepatic pathology.[1,5] However, to the best of our knowledge this is the first case report regarding an enlarging gastric mass as an organizing hematoma. Our imaging in this patient was indeterminate. The mass appeared to have some features of a hematoma but was concurrently noted to have no hyperintense T2 signal and absent calcification, both of which are classic imaging findings of chronic hematoma formation. Her repeat non-contrast CT, however, showed a hyperintense perigastric mass, an imaging finding that can be seen with hemorrhage but also with hypercellular neoplastic processes. It is also important to note that post-contrast subtraction imaging on MRI was not performed. If this had been done, one could have confirmed if the mass is intrinsically hyperintense from hemorrhage or protein content, or a hypovascular mass with little enhancement. Pathology, however, was more definitive in the diagnosis of hematoma formation, considering the patient's prior medical history and recent trauma. The negative staining of the spindle cells for CD117, CD34, and DOG1 rules out GIST. Negative beta-catenin staining eliminates fibromatosis and negative ALK staining eliminates inflammatory myofibroblastic tumor as possible diagnoses. The positive staining for SMA and desmin favor myofibroblastic cells and suggest a non-neoplastic process and the overall pathology findings are consistent with fibrosis surrounding an organizing hematoma. Based on current guidelines, it is important to use multiple diagnostic tools to help guide operative intervention for nondiagnostic subepithelial gastric mass pathologies with surgery being the best definitive treatment option in symptomatic patients.

References

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