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Massive Hematemesis as Initial Presentation of Advanced Pancreatic Adenocarcinoma

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Case Report

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Abstract

Pancreatic adenocarcinoma is one of the leading causes of cancer-related death in the United States. Rarely, a tumor at the head of the pancreas can invade adjacent structures to cause a gastrointestinal bleed (GIB). We present a 78-year-old female whose massive upper GIB was the initial presentation of metastatic pancreatic adenocarcinoma. Prior reports have documented GIB in patients with known pancreatic cancer, but in our case, the diagnosis was made after the bleed was controlled, making this presentation rare and associated with a poor prognosis.

Introduction

Pancreatic adenocarcinoma is one of the leading cancer-related causes of death in the United States. Most patients experience symptoms once the disease is advanced, limiting treatment options.[1] Common symptoms of pancreatic cancer include weight loss, abdominal pain, and jaundice; blood tests may show abnormalities related to mass effect on the biliary tree.[2] Rarely, a tumor at the headof the pancreas can invade adjacent structures to cause a gastrointestinal bleed (GIB), and a smaller percentage of patients experience an upper gastrointestinal bleed (UGIB).[3] In contrast, colorectal, stomach, and esophageal malignancies are considered common causes of bleeding; ranking as the first, second, and fourth- highest cause of gastrointestinal malignancy in the United States, respectively.[4] There are limited publications regarding UGIB caused by pancreatic cancer, and of those available, the majority of patients were diagnosed with pancreatic cancer prior to the UGIB or presented with melena and hematochezia compared to hematemesis.[5, 6, 7] We present a 78-year-old female whose massive hematemesis was the initial presentation of metastatic pancreatic adenocarcinoma.

Case Presentation

A 78-year-old female with a history of atrial fibrillation on apixaban presentedto our emergency department with multiple days of melena and an episode of syncope. She reported constant non-radiating epigastric pain for days, associated

with nausea. She denied changes in weight or appetite, night sweats, and yellowingof her skin. In the emergency room, she had hematochezia and massive hematemesis, leading to hemorrhagic shock (blood pressure 72/53mmHg) and hypothermia (87°F). She was resuscitated with intravenous fluids, and a massive transfusion protocol was initiated. She received eight units of red blood cells, four units of fresh frozen plasma, and two units of platelets. Prior to transfusion, hemoglobin level was 7.6g/dl (baseline from 3 months prior was 12.4g/dl). She wasintubated for airway protection and admitted to the medical intensive care unit for vasopressor support and urgent endoscopy .

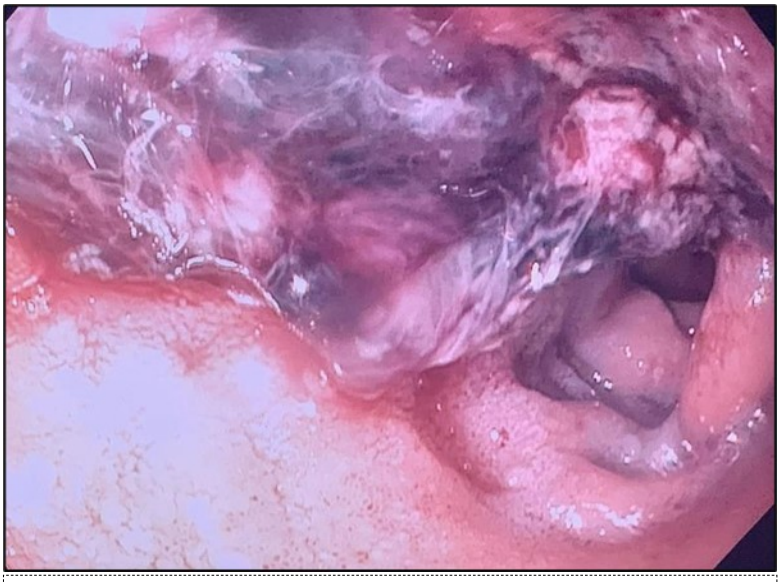

Image 1. Duodenal ulcer with large adherent clot.

A proton pump inhibitor infusion was started, and urgent upper endoscopy showed a 4 cm non-obstructing, deeply cratered duodenal ulcer with a large clot and diffuse oozing [Image 1]. Hemostasis was achieved with the use of mineral powder that provides physical compression and promotes clotting. The lesion was not amenable to other forms of treatment given its size. She was

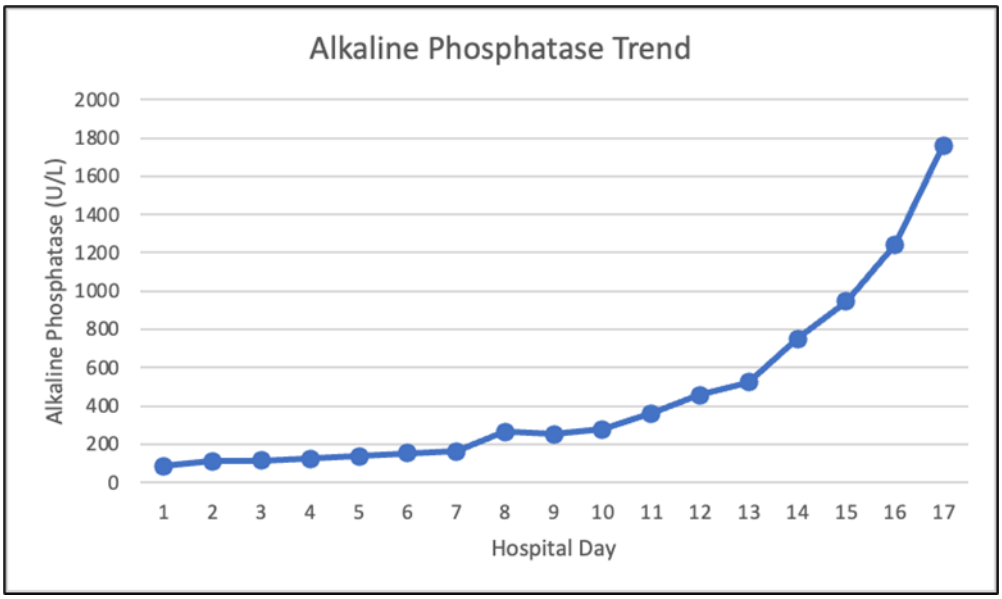

Figure 1. Alkaline phosphatase trend during the hospital course

subsequently extubated and transferred to the medical floor, where she had recurrence of melena.The patient's melanotic stools self-resolved, but a continuously increasing alkaline phosphatase was noted, which prompted further workup [Figure 1].

A right upper quadrant ultrasound showed a hypoechoic lesion in the head ofthe pancreas measuring 3.1 cm, associated with dilation of the main pancreatic and common bile duct. The liver appearance was heterogeneous with focal hypodense lesions. Further blood work was remarkable for a carcinoembryonic antigen of 2139 ng/mL and cancer antigen 19-9 was, 11782 U/mL. A CT chest, abdomen, and pelviswith contrast showed a 3.4x2.5 cm pancreatic head mass invading the duodenum, occlusive thrombi of the main portal vein and superior mesenteric vein, multiple liver lesions, and a distended stomach concerning for partial gastric outlet obstruction [Image 2]. The diagnosis of pancreatic adenocarcinoma was confirmed via biopsy.

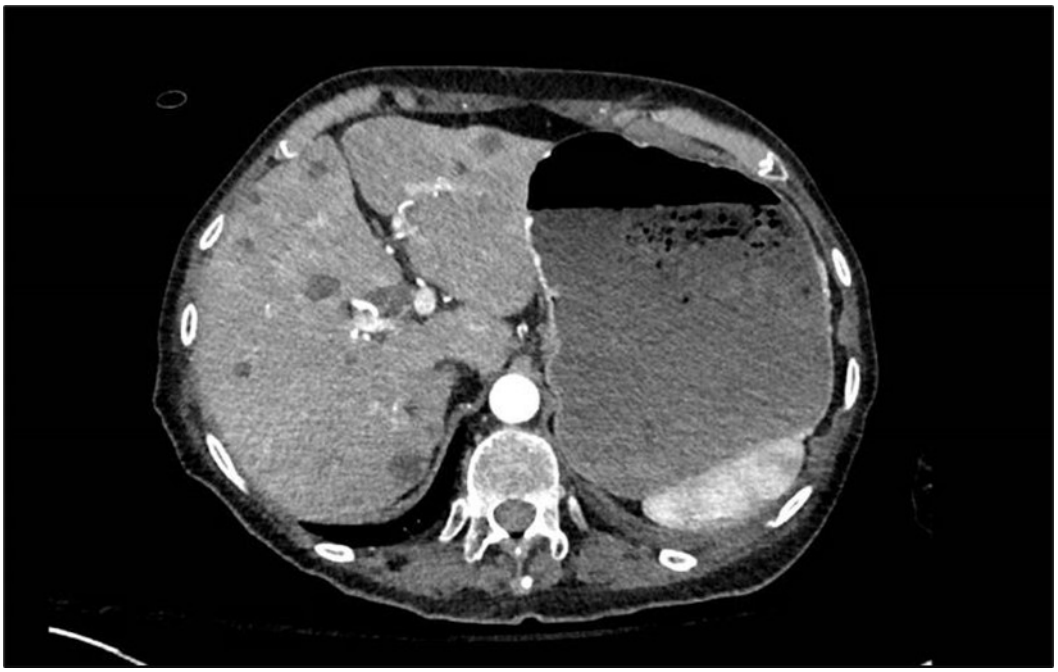

Image 2. CT scan showing liver with multiple metastatic lesions and a large stomach

Given her diminished functional status and poor prognosis, she was dischargedhome with hospice services. She passed comfortably at home 1 month after discharge.

Discussion

The patient's massive gastrointestinal bleed as the initial presentation of pancreatic cancer is rare. The presentation of pancreatic tumors is generally benign relative to other malignancies because, commonly, pancreatic malignancies have vague symptoms and do not lead to significant morbidity until they are advanced.[8] For example, 92% of patients' pancreatic malignancies present with weight loss, and82% of patients present with painless jaundice due to obstruction of the common bileduct; symptoms that were not present in our patient.[2] Furthermore, routine laboratory analysis is usually non-specific and would only be abnormal if the malignancy expands to obstruct the biliary tree. GIB is a rare complication of pancreatic cancer; it has been reported in patients with previously diagnosed

malignancy.[3,9] A retrospective study of 246 patients diagnosed with pancreatic cancer found that of the patients who experienced GIB (13%), the majority had melena or hematochezia (n= 18) and less commonly hematemesis (n=9).[7] Bleeding, when present, is most commonly caused by gastroduodenal tumor invasion (56.4%), variceal bleeding (19.1%), or less commonly direct tumor hemorrhage into the pancreatic duct.[3,10] Furthermore, hemorrhage is associated with a high risk of mortality, and cases with milder GIB still had a median overall survival time of 5.5 months less than those without GIB. [7,10] A separate study showed that for patients whose bleeding was due to tumor invasion, median overall survival was 2.8 months less than if due to any other etiology.[10] Based on the findings of these studies, we determined that our patient's initial presentation of massive UGIB due to pancreatic cancer tumor invasion into the duodenum, complicated by hemorrhagic shock, is rare and associated with poor prognosis.[7,9,10]

She passed 1 month after initial diagnosis, which is consistent with survival ratesreported after all-cause GIB due to pancreatic cancer.[10]

Lastly, a retrospective single-center study of 41 patients with GIB due to pancreatic cancer showed that patients treated with hemostatic radiation therapy (HRT) had better rates of hemostasis (100%) when compared to endoscopic approach (70.6%). Not only did HRT lead to higher rates of initial hemostatic effect,but it also showed lower rates of recurrence (7.7%) compared to endoscopy (35.3%).[10] This could represent an alternative option to achieve hemostasis in GIBdue to pancreatic cancer; although limited in cases like our patient where the presence of pancreatic cancer was not known and her massive GIB required emergent treatment.

Conclusion

Upper gastrointestinal bleeding caused by pancreatic cancer tumor invasion is a rarebut important complication associated with poor prognosis and high mortality.

Providers should have a high level of suspicion when evaluating GIB, and shouldconsider pancreatic cancer as part of the differential diagnosis.

References

1. Vincent A, Herman J, Schulick R, Hruban RH, Goggins M: Pancreatic cancer.The Lancet. 2011, 378:607-20. 10.1016/S0140-6736(10)62307-0
2. Freelove R, Walling AD: Pancreatic cancer: diagnosis and management . Am Fam Physician. 2006, 73:485- 92.
3. Takada R, Loka T, Sueyoshi H, et al.: Duodenal hemorrhage from pancreatic cancer infiltration controlled through combination therapy with gemcitabine and S-1. Case Rep Gastroenterol. 2014, 8:221 -26. 10.1159/000364819
4. Arnold M, Abnet CC, Neale RE, et al.: Global burden of 5 major types of gastrointestinal cancer . Gastroenterology. 2020, 159:335-49. 10.1053/j.gastro.2020.02.068
5. Lee P, Sutherland D, Feller ER: Massive gastrointestinal bleeding as the initial manifestation of pancreatic carcinoma. Int J Pancreatol. 1994, 15:223-27. 10.1007/BF02924198
6. Obleagă CV, Vere CC, Mogoanţa SŞ, et al.: Upper gastrointestinal bleeding - initial

manifestation of pancreaticheadcarcinoma.CurrHealthSciJ.2017,43:236-40. 10.12865/CHSJ.43.03.09

7. Wang YU, Yuan C, Liu X: Characteristics of gastrointestinal hemorrhage associated with pancreatic cancer: a retrospective review of 246 cases. Mol Clin Oncol. 2015, 3:902-08. 10.3892/mco.2015.563
8. Jooste V, Dejardin O, Bouvier V, et al.: Pancreatic cancer: wait times from presentation to treatment and survival in a population-based study.. International Journal of Cancer. 2016, 139:1073-1080. 10.1002/ijc.30166
9. Richardson A, Baldeo C,: Upper gastrointestinal bleed: an unusual presentation of pancreatic cancer . American Journal of Gastroenterology. 2016, 111:S527.
10. Aguilera ML, de Mestier L, Lamallem H, et al.: Gastrointestinal bleeding in patients with pancreatic cancer: causes and haemostatic treatments. United European Gastroenterol J. 2020, 8:1106-114. 10.1177/2050640620939788