

Case Report

Pancreatic Adenocarcinoma with Stomach Wall Invasion: Can it be Foreseen?

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Abstract

Introduction: The association of adenocarcinoma found in the pancreas and stomach wall is a relatively rare condition as is any metastasis from the pancreas to the stomach. Pancreatic carcinoma associated with additional gastric cancer is also relatively uncommon. The most frequent sites of metastasis reported for pancreatic adenocarcinoma are the lymph nodes, lung, liver, adrenal glands, kidney, and bone. We report a case of adenocarcinoma of the pancreas associated with a separate adenocarcinoma of the stomach wall. Not enough research has been placed on properly distinguishing these two forms of malignancies.

Presentation of Case: In this case report we discuss the presentation of an 87 year old female who presented with abdominal pain and was found to have multiple sites of metastasis of Adenocarcinoma of pancreatic origin with direct spread to the stomach wall.

Conclusion: The characteristics of this combination of gastric and pancreatic adenocarcinoma, whether there is a direct correlation or through local metastasis, needs to be further investigated to shed light on this condition.

Keywords: Pancreas; Stomach; Adenocarcinoma; Metastasis

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Consent: We confirm that the patient has given the informed consent for the case report to be published.

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Introduction

Similar to other malignancies, pancreatic cancer can spread either by directly invading local areas or by spreading through the bloodstream or lymphatic system to distant locations. In our patient, pathology was unable to fully distinguish the primary site of the carcinoma but determined it to be of likely pancreatic origin. Cases of synchronous carcinomas of the stomach and pancreas are relatively rare and similar to pancreatic adenocarcinoma with local metastasis to the stomach wall.

Case presentation

An 87 year old female with a past medical history of hypertension and hypothyroidism presented to the emergency room with a complaint of right upper quadrant abdominal pain of three day duration. She underwent ultrasound which was suggestive but inconclusive for acute cholecystitis. However, it incidentally discovered multiple masses in the liver, hilum/pancreatic head region, and left upper abdomen presumably representing a metastatic tumor. CT scan of the abdomen was positive for multiple soft tissue masses adjacent to the liver hilum and pancreatic head, a large cystic mass on the posterior wall of the stomach, and a small low-attenuation lesion on the inferior right hepatic lobe representing metastasis (Figure 1). Multiple lesions were further discovered within both kidneys either representing complex/hemorrhagic cysts or small enhancing lesions. At the time of initial presentation, the patient refused any further testing including biopsy. CEA level was found to be elevated at 40.4 (0-4.7).



Figure 1: CT scan of the abdomen with multiple masses adjacent to liver hilum, pancreatic head, posterior wall of stomach, and inferior hepatic lobe.

Patient returned to the hospital 6 months later with complaints of recurring abdominal right flank and back pain. She denied any other associated symptoms. On physical examination significant findings showed a blood pressure of 184/73 and only other significant finding was right flank tenderness.



Figure 2: CT scan demonstrating multiple sites of lymphadenopathy, new hepatic lesions, and a large mass at the tail of the pancreas and stomach

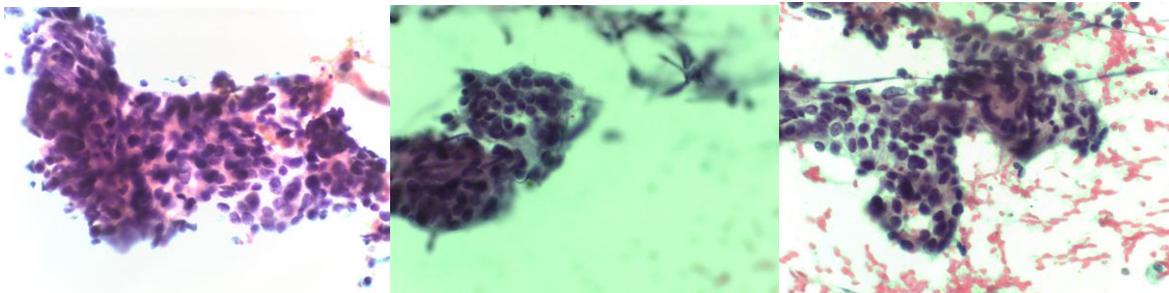


Figure 3: Pathology significant for poorly differentiated Adenocarcinoma

Repeat abdominal CT showed an increase in bulky lymphadenopathy in the perihepatic, peripancreatic, gastrohepatic region and new hepatic lesions as well as a large mass now at the tail of the pancreas and stomach (Figure 2). Patient agreed for biopsy and pathology reported poorly differentiated adenocarcinoma positive for CD X2 and AE1/3 (Figure 3). The results were nonspecific but suggested a likely primary source to be the pancreas, however an additional primary site of the stomach could not be excluded. CEA level was found to have increased to 124.9 (0-4.7) and AFP was elevated at 10,889 (0-8.3). Patient refused any intervention at this time and was discharged to rehab with outpatient oncology follow up.

Discussion

Pancreatic cancer carries a relatively poor prognosis and is well known to metastasize rapidly thus being one of the deadliest malignancies reported. Pancreatic cancer is the fourth leading cause of cancer death among men and women in the USA, making up about 6% of all cancer-related deaths [1]. In the literature there are many different sites of metastasis that are well documented. The liver and peritoneum are the most common sites of metastases followed by the lungs, bone, and brain [2]. While less common sites are found to be present in the muscle, skin, pleura, heart, umbilicus, kidney, stomach, appendix, and even include the spermatic cord and prostate [2]. Some methods of metastasis of various tumors include direct invasion, lymphatic spread, hematogenous spread, or even chemotaxis invasion where cancer cells with high expression of chemokine receptor are able to spread to specific sites. Clinical symptoms and signs are unfortunately not present until the late stages of the disease when metastasis has already occurred.

Pancreatic cancer has been associated with gastric cancer, however no report has directly mentioned any relationship between the direct spread of pancreatic adenocarcinoma to the stomach wall. Due to the proximity of the pancreas to the stomach it brings into question whether direct invasion could be a mechanism of such a presentation. This is different than a previously reported case of synchronous double cancer of the pancreas and stomach. In one case report, the diagnosis and management with subtotal gastrectomy and distal pancreatectomy was made in a patient found to have moderately differentiated tubular adenocarcinoma of the stomach in addition to moderately differentiated tubular adenocarcinoma of the pancreas [3]. Pancreatic cancer associated with cancer of other organs is estimated to range from 7.3 to 16.7 percent while the presence of gastric cancer with pancreatic cancer specifically makes up only 3.8% of all gastric cancers [3-5].

In the final analysis of the pathology of this patient, she was found to be CDx2 positive but other tumor markers most commonly associated with Pancreatic Adenocarcinoma were negative. The final pathology report concluded the biopsy was consistent with poorly differentiated adenocarcinoma of the GI tract likely correlating and stemming from the pancreas. The stomach was another possible primary source of adenocarcinoma but CT demonstrated its presence limited to only the stomach wall. These findings were unusual in the sense that the site of the cancer other than metastasis to the liver and lymph nodes, was otherwise limited only to the posterior wall of the stomach and pancreas. Other reports in the literature fail to address how a direct connection between these two organs can result in the spread of adenocarcinoma to only a section of the outer wall of the stomach. If the diagnosis was made at a later stage, it remains unclear whether the cancer would have invaded deeper into the stomach tissue.

Conclusion

Whether the source of the Adenocarcinoma was the stomach or the pancreas, the presentation of the cancer as a single lesion in both organs is a rare finding of multiple synchronous primary adenocarcinomas. However the higher likelihood, as reported by pathology, has the pancreas labeled as the primary site of Adenocarcinoma which metastasized to not only the liver, lymph nodes, but also the stomach wall. The finding of a posterior wall mass on the stomach is a rare finding, however it is significant because it is able to demonstrate some of the many presentations of Pancreatic cancer and its possible sites for metastasis. If further investigations and diagnostic tools can be implemented on the

spread of Pancreatic cancer to such sites it may improve future survival rates. Pancreatic cancer, which has a very high mortality rate, continues to be a difficult to treat condition as the rapidity and questionable method of invasion has not been researched and investigated. The cancer being limited to the stomach wall demonstrates that the method of spread of Adenocarcinoma may involve local spread as no sign of internal metastasis was present. As the patient refused further intervention, it still remains unclear how any intervention may impact the spread of the cancer but the presentation continues to shed light on the possible methods of invasions associated with Pancreatic cancer.

Consent

Informed consent was obtained by the patient prior to any research or discussion of this case.

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