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CLINICAL VIGNETTE

Pancreatic Cancer

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Case Presentation

A 50-year-old female was referred for evaluation of rib pain and abdominal pain. Her symptoms began two months prior to presentation. She was on vacation and began to develop intermittent pain over the left lower ribs, which only occurred at night while lying down. She initially believed the pain was related to her sleeping position and the unfamiliar bed at her hotel. However, the pain continued when she returned home from her vacation. The pain was still only experienced while she was lying down, and resolved when she was standing or walking. The symptoms then progressed and she began to experience pain bilaterally in her lower ribs and also in the epigastric area. There was also some radiation of pain to the lower chest, bilaterally. These symptoms significantly worsened by reclining or lying down. She denied nausea or vomiting. Her appetite was unchanged and she denied any weight loss. There was no change in bowel habits. She previously tried a two week course of omeprazole 20 mg daily, without any improvement of her symptoms. She had also previously undergone a chest x-ray, which was normal. The patient did not have any significant past medical history or any family history of gastrointestinal diseases or malignancy. She denied tobacco or alcohol use. She had not started any new medications prior to the onset of her symptoms. On physical exam, there was no significant abdominal tenderness to palpation.

Based on her symptoms she was sent for an urgent CT scan of the abdomen and pelvis. The CT scan revealed a large hypoenhancing mass in the pancreatic body/tail measuring 70 x 53 mm. The mass was extending to the splenic hilum, encasing and narrowing a long segment of splenic artery, encasing at least 180 degrees of the superior mesenteric artery, and encasing the celiac axis and hepatic artery. The mass was abutting the posterior wall of the gastric body and the colonic splenic flexure, as well as infiltrating posteriorly towards the left retroperitoneum and adrenal gland. There were also at least 30 hypoenhancing lesions involving both lobes of the liver, consistent with metastatic disease.

The patient then underwent upper endoscopic ultrasound. There was a large hypoechoic mass in the tail of the pancreas, as was described in the CT scan. There was also vascular involvement noted and liver lesions, consistent with the CT findings. A readily accessible 3 cm liver lesion and the pancreatic mass underwent fine needle aspiration and fine needle

biopsy. The pathology findings confirmed the diagnosis of moderately differentiated adenocarcinoma of the pancreas.

Discussion

Pancreatic cancer is the fourth leading cause of cancer related death in the United States. At least 95% of pancreatic malignancies arise from the exocrine pancreas, with less than 5% arising from the endocrine pancreas. For the purpose of the discussion, pancreatic cancer will refer to exocrine pancreatic neoplasms. Among the most common symptoms are abdominal pain, weight loss, anorexia, and jaundice.¹ The most common location is in the head of the pancreas, representing about 60-70% of cases.² Tumors located in the head of the pancreas are more likely to present with weight loss, jaundice, and steatorrhea than tumors located in the body or tail of the pancreas.^{1,3,4} The pain associated with pancreatic cancer is usually gradual in onset and is typically epigastric in location, sometimes radiating to the sides or back. Lying down or eating often worsens the pain. While jaundice is usually an early sign in pancreatic head tumors, it usually occurs later in tumors located in the body or tail, and may be related to liver metastases. A less common initial presentation of pancreatic cancer may include unexplained superficial thrombophlebitis, which is sometimes migratory.⁵ There have also been reported associated paraneoplastic manifestations, including cicatricial and bullous pemphigoid.⁶

There are numerous imaging modalities that may assist in the diagnosis of pancreatic cancer. While ultrasound has a relatively high sensitivity for larger pancreatic masses, it has a lower sensitivity for masses that are less than 3 cm in size.⁷⁻⁹ Overall sensitivity of ultrasound has been reported as high as 90% for the detection of pancreatic exocrine tumors.⁷ Another commonly used modality is CT scan. As with ultrasound, the sensitivity is higher with larger pancreatic lesions. The sensitivity may approach 100% for lesions greater than 2 cm, but can drop to 77% for lesions less than 2 cm in size.¹⁰ Sensitivity is highest when the CT scan is done with intravenous contrast. Another option for non-invasive imaging is magnetic resonance cholangiopancreatography (MRCP). This has the advantage of better defining the pancreatic duct and biliary tree.

In order to establish the diagnosis, histologic confirmation is required. Percutaneous biopsy can be obtained using either

ultrasound or CT guidance. There is a controversial theoretical risk of disseminating cancer cells along the needle path, but this risk is likely very low or absent. The best option for obtaining tissue is endoscopic ultrasound (EUS) guided FNA or biopsy. This further reduces the risk of tumor seeding compared with percutaneous biopsy. The sensitivity and specificity for EUS guided FNA are 90% or greater for the diagnosis of pancreatic cancer, making it the first line choice where available.

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