Case Report

Leiomyosarcoma of the Pancreas

Gerard V. Aranha,* Patricia E. Simples, and Keith Veselik

Sections of Surgical Oncology, Medical Oncology, Surgical Pathology, Department of Surgery, Loyola University Stritch School of Medicine, Maywood, IL

Summary

A 45-yr-old female patient was admitted with signs and symptoms of acute pancreatitis. She had no history of gallstones, alcohol, or trauma. Her CT scan was consistent with a cystic lesion of the pancreas. Because of her presenting symptoms and signs, she was initially treated as an acute pancreatitis. Followup CT scan showed absolutely no change in the cyst. Surgical consultation was requested. A diagnosis of a neoplastic cyst was made, and the patient was taken to surgery where a distal pancreatectomy and splenectomy was performed. Pathology revealed a leiomyosarcoma of the pancreas. Only 15 other cases of leiomyosarcoma of the pancreas have been reported thus far in literature.

Key Words: Pancreas; mass; cyst; leiomyosarcoma; sarcoma.

Introduction

Leiomyosarcoma of the pancreas is an uncommon tumor. A review of the literature reveals 15 such cases published so far (1). We report a case of leiomyosarcoma occurring in a young woman that presented on CT scan with a cystic lesion, was treated as a pseudocyst initially, but later underwent surgical exploration and resection.

Case History

A 46-yr-old female patient was admitted to Loyola University Medical Center with abdominal pain, nausea, and vomiting. Physical examination showed epigastric tenderness, and laboratory investigation revealed an elevated amylase. The patient was admitted with a diagnosis of acute pancreatitis. She had no coincidental history of alcohol intake, peptic ulcer disease, or trauma. An ultrasound of the gallbladder was negative for gallstones. A CT scan done revealed a cyst of the body of the pancreas. Because of the patient’s presenting signs, symptoms, and elevated amylase, this was thought to be a pseudocyst, and medical management was instituted. After 2 wk, a repeat CT scan was done showing absolutely no change in the size of the cyst. At this point, a surgical consultation was requested. After evaluation of the patient, it was felt that the cyst appearance (Fig. 1) was that of a true cyst rather than a pseudocyst with clear margins between the cyst and the surrounding structures. Further evaluation of the CT scan showed septa to be present in the cyst, suggesting a neoplastic cyst. The patient then underwent exploration at which time a 3-cm mass was seen in the body of the pancreas. An 80% distal pancreatectomy and splenectomy was performed.

Pathology revealed a high-grade sarcoma (Fig. 2), most consistent with a leiomyosarcoma. Multiple sections of the tumor showed it to be highly cellular...
and composed of spindle cells arranged in interlacing fascicles. The cells had enlarged, oval nuclei that were hyperchromatic with coarse irregularly distributed chromatin scattered multinucleated giant cells with anaplastic bizarre nuclei. Mitotic activity was brisk. In some areas, the cells were arranged in storiform pattern. There were small blood vessels coursing throughout the tumor and multifocal areas of hemorrhage with scattered individual cell necrosis. The proximal and distal margins of the resection were free of tumor. Four lymph nodes were present and negative for metastases. Immunoperoxidase studies were performed and revealed focal positivity for vimentin, desmin, and myoglobin. The anti-1, antichymotrypsin stain was equivocal. Cytokeratin, CD 68, HMB-45, and S-100 stains were negative. A reticulum stain showed individual tumor cells surrounded by reticulum fibers. A trichrome stain did not demonstrate the presence of collagen within the tumor. Pathological diagnosis was confirmed by the Armed Forces Institute of Pathology.

The patient's final clinical pathological stage was thought to be a G3 T1 N0 M0. Because the lesion was thought to be a T1 lesion it was opted not to treat the patient with radiation or chemotherapy. Six months later the patient was readmitted to the Medical Center with increasing abdominal pain. Workup, including CT, showed multiple focal hypodense lesions in the liver suggestive of liver metastasis. One of these was biopsied percutaneously and confirmed the presence of metastasis. The patient was given adriamycin-based chemotherapy, but did not respond and expired 3 mo later. Her total survival from the time of surgery was 9 mo.

Discussion

Pancreatic leiomyosarcoma is a rare condition, and only 15 cases have been reported so far in literature (1). Abdominal pain, weight loss, epigastric tenderness, and the presence of an abdominal mass are usual clinical presentations (1,2). Imaging findings can be nonspecific (3). The usual appearance is that of a heterogenous mass, and as can be seen from our case, the CT showed a cyst with the possibility of an internal septa. These tumors are thought either to arise from the wall of the blood vessels of the pancreas or the pancreatic duct itself (2).

Because of the rare nature of the tumor, there are few known criteria to predict behavior of these tumors. What is known is that they have occurred in patients from the ages 14–80 yr (2), and they are more common in males than in females (1,2). There is no clear histologic criteria to assess malignant potential of these smooth muscle tumors. The most reliable predictor is thought to be the frequency of mitosis (2). In our case, the mitotic activity was brisk, and the patient was dead in 9 mo. Complete surgical resection offers the only potential chance of cure for