Adenosquamous Carcinoma of the Pancreas: a Rare Entity

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Abstract

Pancreatic Adenosquamous Carcinoma is a rare subtype of pancreatic cancer. Here we present a 51 year old man who presented with features of obstructive jaundice. Radiological imaging studies revealed the presence of solid pancreatic mass. He underwent pancreaticoduodenectomy – superior mesenteric artery (SMA) first approach. Postoperative period was complicated with prolonged ascitic drainage. Histological analysis suggested adenosquamous carcinoma with 30% squamous components, pT2N0M0. Patient is being planned for adjuvant chemotherapy.

Keywords: Pancreatic cancer, adenosquamous carcinoma, pancreaticoduodenectomy.

Introduction

Pancreatic Adenosquamous carcinoma (PASC), previously referred to as adenoacanthoma and mucoepidermoid carcinoma[1], is a relatively rare histological subtype of pancreatic ductal adenocarcinoma (PDAC). It accounts for 1-4% of all pancreatic exocrine malignancies[2] and has an unusually aggressive clinical behavior. It is defined histologically by the presence of both adenomatous and squamous components with the squamous component accounting for at least 30% of the tumor.

The clinical presentation is similar to PDAC and PASC is generally treated with Pancreaticoduodenectomy. Here we report this rare entity treated successfully in our center.

Case Report

A 51-year-old male, smoker with regular alcohol intake, presented with jaundice of one month duration. He had no pain abdomen, weight loss, anorexia or other constitutional symptoms. He had undergone laparoscopic cholecystectomy for gall bladder stone six years back. He was taking oral Metformin 500mg twice a day for Diabetes Mellitus. There was no history of chronic pancreatitis. On physical exam, he was well built, icteric

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with mild tenderness on deep palpation of epigastrium.

Liver function test showed obstructive jaundice with total bilirubin, direct bilirubin and Alkaline Phosphatase levels of 11.8 mg/ dl, 6.2 mg/ dl and 1680 IU/L, respectively. His CA 19.9 was 1.91 U/ml. Upper GI Endoscopy was normal and contrast enhanced CT scan revealed ill defined, heterogeneously enhancing space occupying lesion (SOL) 37*49*40 mm of soft tissue attenuation involving the uncinate process and part of head of pancreas. The SOL was poorly differentiated from serosal layer of medial surface of second part of duodenum and distal common bile duct (CBD). There was Compression/Infiltration into distal CBD with mild dilation of upstream CBD (15mm) and two enhancing peripancreatic lymph nodes were also noted of size seven mm each. Radiologically superior mesenteric vein (SMV) and superior mesenteric artery (SMA) were intact (fig. 1).

With suspicion of carcinoma of head of pancreas, the patient underwent pancreaticoduodenectomy SMA first approach.[3] The intraoperative findings revealed a solid mass of 4*4*4 cm over the head of pancreas and uncinate process, abutting SMV and portal vein (PV). There was no invasion into the SMV or SMA. Root of transverse colon was involved by the mass which was excised en bloc with the specimen. Due to close vicinity of the tumor to SMV and PV, infracolic approach was utilized with identification of SMA to its root to the left of SMV/ PV. Middle colic vessels were ligated during mobilization of SMA. Later SMV and PV were cleared of tumor which were only compressed by the tumor without invasion. There was no intraabdominal metastasis. The CBD was 30 mm in diameter. The pancreas was soft in consistency. The pancreatic duct at the site of pancreatic division was five mm in diameter. There were no any vascular anomalies (fig. 2). Duct to mucosa pancreaticojejunostomy followed by hepaticojejunostomy and gastrojejunostomy was done.

He was allowed orally on day four. Post-operative period was complicated with prolonged ascitic fluid leakage through the abdominal drain which was removed on day 21 following resolution of ascitic leak. His drain amylase levels on post-operative days three, five and seven were within normal limits. Histopathology report revealed 4 *4 cm mass at head of pancreas and uncinate process with extension into ampulla of Vater. Histologically it was adenosquamous cell carcinoma with G2 grade and 30% squamous components (fig. 3). There was no lymphovascular invasion but perineural invasion was present. All resection margins were free of tumor. Twelve lymph nodes were harvested in the specimen, all of which were free of tumor. The final staging as per AJCC 8th edition[4] was pT2N0M0 (Stage IB).

Discussion

PASC is a rare tumor, accounting for only 1-4% of all pancreatic exocrine malignancies.[2] It is a subset of PDAC with presence of squamous component histologically. Pure squamous cell carcinoma is very rare, whereas squamous metaplasia associated with pancreatic cancer has been observed in 6% of cases.[5] It has been hypothesized that squamous metaplasia occurs as a result of

ductal inflammation due to chronic pancreatitis or obstruction by an adenomatous tumor, and this process leads to PASC.[6] The adenocarcinoma cell is characterized by an abundant endoplasmic reticulum, a well-developed Golgi apparatus, and secretory vesicles. The malignant squamous cell has a scanty endoplasmic reticulum but prominent bundles of tono-filaments, similar to the cells seen in squamous-cell carcinoma. PASC usually presents with an aggressive biology and SEER database studies have found PASCs were more likely to be poorly differentiated, node positive and larger than adenocarcinoma.[7] More than half of the tumors arise from the head of pancreas.[8] Clinically, the presentation is similar to the usual ductal adenocarcinoma variety with abdominal pain, weight loss and jaundice being the most common symptoms.[6] Other symptoms at presentation may include dull back pain, low-grade fever, fatigue, malaise, pruritus, nausea, and bloating. Clinical association with diabetes mellitus and history of alcohol intake and chronic pancreatitis has been noted.[7,9] Diagnosis is through imaging, however no specific imaging features differentiate PASC from adenocarcinoma. Presence of infiltrating round-lobulated mass with extensive central necrosis with ring-enhancement may point toward the diagnosis.[10] Cytologic analysis with tissue obtained by Endoscopic Retrograde Cholangiopancreatography (ERCP) or Endoscopic Ultrasound (EUS) may be useful for diagnosis, however diagnostic accuracy is low.

There are currently no guidelines for treating patients with PASC. Treatment regimens similar to adenocarcinoma have been utilized previously. Multi-modality therapy utilizing surgery, chemotherapy and radiation therapy may all be required for treatment of this aggressive tumor. However, surgery is the only modality that provides opportunity for long lasting survival.[8,9] Pancreaticoduodenectomy, distal pancreatectomy or Total pancreatectomy are the usual modes of resection, according to the location of tumor. However, previous studies have demonstrated uniformly poor prognosis in patients presenting with this histology.[1,11] Role of neoadjuvant and adjuvant

Fig. 1 Preoperative CT scan (Portal phase)

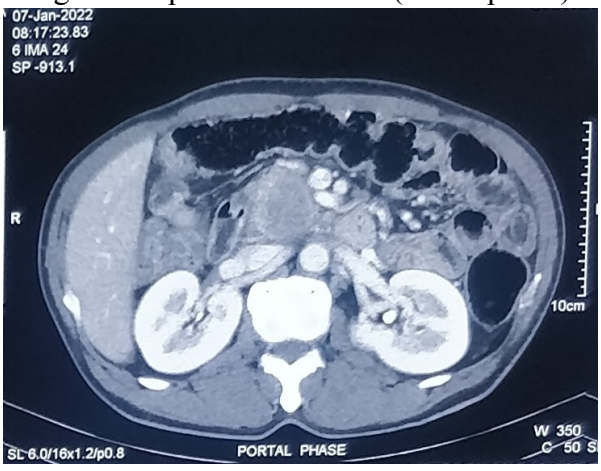
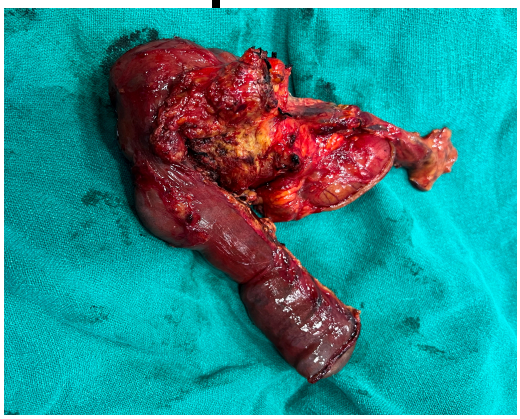
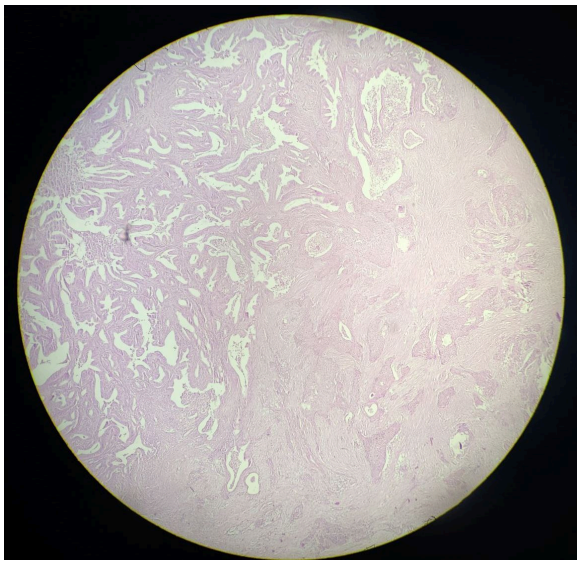


Fig. 2 Specimen



chemotherapy is unclear. Most case reports have used 5-Fluorouracil based therapies, whereas recently platinum based therapies have also been studied. Adjuvant chemoradiotherapy may provide greater survival advantage compared to adjuvant chemotherapy or observation alone, although no randomized controlled trials have been done.[12] In our case, the tumor was large, located at head of pancreas and uncinate process. SMA – infracolic approach seemed justified and safer which helped us in achieving R0 resection of tumor. The patient is being planned for adjuvant chemotherapy.

Fig 3: Histology. (H&E x 100)



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