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Laparoscopic distal pancreatectomy of an acinar cell carcinoma

Case Report

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Abstract: Acinar cell carcinoma (ACC) of the pancreas is relatively rare, accounting for only approximately 1% of all exocrine pancreatic tumors. Because ACC of the pancreas is rare, strategy for management needs to be explored. The patient was a 50-year-old man who presented with left upper quadrant pain over 6 months. A mass lesion, located at the pancreatic tail, measuring approximately 4 cm in diameter was found on ultrasound, abdominal dynamic CT. The patient underwent a laparoscopic distal pancreatectomy. Immunohistochemical stains and electron microscopic examination of the tumor was consistent with ACC. No complication occurred, and the patient was discharged in good condition on 10th postoperative day. During the 10 months of follow-up, CT and tumor markers revealed no recurrence. In conclusions, Laparoscopic distal pancreatectomy can be performed safely for selected patients with nonmetastatic ACC at a favorable anatomic position. This operative strategy offers a minimally invasive surgery with the aim of a potential cure.

Keywords: *Laparoscopic • Distal pancreatectomy • Acinar cell carcinoma • Pancreatic*

1. Introduction

Aggressive surgery has an important role in the treatment of malignant pancreatic exocrine tumors. Besides offering the only potentially curative form of treatment, surgical management can allow biopsy of the tumor, which is necessary for selection of adjuvant therapy. Advances in technology have allowed different surgical procedures to be performed using minimally invasive approaches. Although laparoscopic resection of pancreatic lesions has been reported, laproscopic treatment of acinar cell carcinoma has not been described. We report a patient who underwent laparoscopic distal pancreatectomy of an acinar cell carcinoma

2. Case report

The patient was a 49-year-old man presenting with left upper quadrant pain over 6 months and a weigh loss of 8 kg. Ultrasonography revealed a heterogeneous hypoechoic mass of about 4.0 cm between the spleen and left kidney. A CT scan confirmed the finding of an enhancing lesion in the tail of the pancreas. A PET-CT showed a focal uptake in the tail of the pancreas and involvement of the spleen hilum. The patient's AFP was 130ng/l (normal level<11 ng/l). Other tumor markers including CEA, CA125, and CA199 were not elevated. The patient's serum levels of amylase, lipase and calcium were normal, and there was no family history of pancreatic exocrine neoplasia. Distal pancreatectomy with splenectomy using a laparoscopic approach was planned.

2.1. Surgical procedure

The operation was performed with the patient under general anesthesia in a supine position. A 10-mm subumbilical trocar was insert red by open cutdown. After creation of a 15-mmHg pressure carbon dioxide pneumoperitoneum, four 10-mm ports were inserted under direct vision in the epigastrium as well as the right and lower quadrants. The lesser sac was entered by dividing the gastrocolic ligament with an ultrasonic dissector. The anterior aspect of the pancreas was exposed and visualized. Laparoscopic ultrasonography showed a 3 x 4-cm tumor at the tail of the pancreas near

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the splenic hilum. Lesions could be demonstrated in any other organs. Laparoscopic resection was chosen.

The stomach then was retracted anteriorly through the epigastric port to expose the pancreas. The peritoneum over the inferior border of the pancreas was incised, and the pancreas was retracted upward after dissection. The splenic artery at the proposed line of transaction was isolated, doubly clipped, and divided, and the proximal stump was reinforced by a performed nonabsorbable suture loop. The body of the pancreas and splenic vein were then transected with an Endo-GIA stapler, keeping a 2 cm margin from the tumor. The pancreas was then retracted laterally, after which the splenic attachments to the diaphragm, colon, and kidney were divided with the ultrasonic dissector. Distal pancreatectomy with splenectomy was completed. The resected specimen was placed inside a retrieval bag and delivered through a transverse incision at the lower abdomen. Two silicone drains were placed close to the pancreatic stump and the splenic beds. Total operation time was 290 min, and the estimated blood loss was 100 ml.

Perioperatively, 0.1 mg of octreotide injected subcutaneously every 8 h for 2 days was administered to suppress pancreatic secretion and decrease the risk of pancreatic fistula. The operative recovery was uneventful. By the second postoperative day, the patient was allowed to resume eating and the abdominal drains were removed on postoperative day 5. There was no requirement for analgesics, and the patient was discharged 10 days after the operation. The patient was given 6 courses of gemcitabine, eloxatin, and target therapy (Tarceva) over a total of 3 months. His AFP levels returned to normal one week after the operation, and there was no evidence of recurrence on the follow-up CT scan 10 months after the operation.

The pancreatic tumor measured 30 x 40 mm at the tail of the pancreas. Microscopically, the tumor cells had hyperchromatic round nuclei in a polarized arrangement, and their eosinophilic cytoplasm was positive for d-PAS. Immunostaining for trypsin, AFP and CEA were positive.

3. Discussion

Acinar cell carcinoma is a rare pancreatic neoplasm that accounts for <1% of pancreatic tumors [1]. Because ACC of the pancreas is rare, a strategy for its management needs to be explored. Early diagnosis and resection remain the principal treatments, and other modalities of therapy, such as chemotherapy, remain unsatisfactory [2-8]. Although it was not statistically significant, an increased survival rate was noted among patients who underwent resection [9]. A better prognosis would be anticipated among patients younger than 60 years, with a tumor size <10 cm, and whose tumors were not lipase-secreting. The overall survival rate reported was 56.3% at 1 year and 5.9% at 5 years, which is better than for ductal cell carcinoma but lower than that for carcinoma of islet cell origin [11].

Laparoscopic pancreatic resection is commonly reserved for benign pancreatic diseases such as chronic pancreatitis, pseudocysts, and cystadenomas [12]. With advances in equipment and refinements in operative techniques, the indications have extended to the resection of malignant tumors. Although there is no strict guideline for adopting such an approach, laparoscopic distal pancreatectomy can be performed safely for selected patients with nonmetastatic ACC. A rapid postoperative recovery can be expected, and the surgical procedure is potentially curative.

In conclusion, laparoscopic distal pancreatectomy can be performed safely for selected patients with nonmetastatic ACC at a favorable anatomic position. This operative strategy offers the benefits of minimally invasive surgery with the aim of a potential cure.

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