A Pancreatic Fistula as a Rare Complication of Laparoscopic Radical Nephrectomy: A Case Report

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A B S T R A C T

We report an unusual case of pancreatic fistula after transperitoneal laparoscopic left radical nephrectomy. A 43 years old male patient presented with severe abdominal pain and abdominal distension 71 day after the surgery. Computerized tomography (CT) demonstrated a large fluid collection in the operated renal fossa. The treatment, which comprised percutaneous drainage led to a closure of the fistula 20 days after therapy.

Introduction

Intraoperative pancreatic injury is relatively uncommon complication during the left radical nephrectomy. The tail of the pancreas overlies the adrenal and may be injured during dissection of the medial aspect of the adrenal and the securing of the splenorenal ligament. Injury of pancreas during left-sided laparoscopic adrenalectomy or radical nephrectomy is most commonly associated mechanical retraction. The incidence of this complication is 2.1% for radical left nephrectomy and 8.6% for left adrenalectomy.1 Of note, the diagnosis rarely made intraoperatively; indeed, 75% of pancreatic injuries are diagnosed during the postoperative period. Herein, we present a case that had a pancreatic fistula after laparoscopic radical surgery in the late period and treatment with percutaneous drainage.

Case summary

A 43-year-old Caucasian male patient admitted to the hospital for left flank pain and abdominal discomfort. Physical examination was normal and laboratory tests including complete blood count, serum biochemical analysis, urine analysis and urine culture were obtained. All of the results of the tests were normal and a computed tomography was performed. Computed tomography visualized a tumor of a 12*8 cm diameter in the upper pole of the left kidney (Fig. 1). The patient was qualified for transperitoneal laparoscopic radical nephrectomy. After radical nephrectomy there were no early complications. He was discharged hospital on the third day in a good general condition. The result of histopathological examination was renal cell carcinoma, Fuhrmann Grade 3, perinephritic fatty tissue invasion present, surgical margin: negative.

On the 70 day after the surgery, the patient was readmitted presenting with severe abdominal pain, abdominal distension, increased CRP (62 mg/L). Other biochemical values: WBC: 9.44, amylase: 169 U/L (reference interval: 25–125), lipase: 73 U/L (reference interval: 13–60). A detailed evaluation included CT, which showed a large fluid collection (22 * 14 cm) overlying the operated renal fossa (Fig. 2).

The patient was qualified for percutaneous drainage of the left retroperitoneal area under the ultrasonography and about 4000 mL liquid was collected. The drainage in the following days resulted in the collection of 100–300 mL of liquid per day. The amylase level in the liquid was assayed and it reached 1841 U/L. A pancreatic cistern was diagnosed.

The treatment, which comprised percutaneous drainage led to a closure of the fistula 20 days after therapy. Drainage decreased gradually to 50 mL/24 hours.

The patient was discharged in a good general condition, on the seventh day, together with the drain tube. The drainage system from the retroperitoneal area was removed twentieth days. The patient was re-evaluated 3 months after the percutaneous drainage.
with CT. There was no intraabdominal fluid (Fig. 3). The general condition of the patient was good and his biochemical values were normal.

Discussion

The anatomical proximity of tail of pancreas to the left kidney plays a key role in this matter. Especially when experiencing a difficult dissection or in the presence of a large tumor may be complicated by an injury to the tail of the pancreas because of the proximity of this organ to the kidney. The reason of fistula formation is the imperceptible intraoperative damage to pancreatic tissue and opening of pancreatic ducts. The key to avoiding pancreatic injuries is to completely mobilize the spleen and pancreas en bloc. In our case, the tumor size was 12 cm, which can be the reason for this complication due to large diameter.

The most important in diagnostics is the increase (at least three fold) of amylase level (usually over 20,000) in the liquid collected from the fistula. In our case the drainage fluid amylase measurement was 1841 U/L.

In 30–50% of cases conservative treatment is successful which includes discontinuing oral nutrition, antibiotic therapy based on microorganisms species diagnosed and administering somatostatin analogues, which decrease exoteric secretion of the pancreas.

Treatment involves either percutaneous or surgical drainage of the fluid collection to avoid the development of a pancreatic pseudocyst or abscess. Most fistulas close spontaneously with adequate drainage, and surgical closure is only occasionally necessary.

Other treatment modalities are more invasive and rarely needed. This treatment modalities are endoscopic sphincterectomy of Wirsung’s duct, prosthetic restoration in the form of

Figure 1. A tumor of the left kidney.

Figure 2. Liquid fluid in the left retroperitoneal area.
fistulojejunostomy/pancreas resection, or open surgery if the conservative treatment does not respond. The case was consulted to the general surgery department and it was decided that percutaneous drainage was adequate for treatment. With percutaneous drainage, 4000 cc came first and then 100–300 cc per day. We did not think about adding somatostatin to the treatment, because the drainage is not high.

There are cases of delayed pancreatic fistula in the literature. There is a case in the literature with a cutaneous fistula 10 years after the left nephrectomy. This case was sufficient in conservative treatment.

Conclusions

Pancreatic fistula is rare complication of left nephrectomy; it majority of cases can be managed with conservative treatment.

Conflict of interest

The authors declare no conflict of interest.

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