Pancreatic Fistula after Laparoscopic Radical Nephrectomy

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Abstract: Laparoscopy is widely used technique for renal tumours in the world. After laparoscopy, some complications can occur in the follow-up. Pancreatic fistula incidence is 2.1% after left laparoscopic radical nephrectomy. This complication is very rare after right laparoscopic nephrectomy. I reported a case of pancreatic fistula which was misdiagnosed after surgery and managed conservatively.

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Introduction

Intraoperative pancreatic trauma is an uncommon complication during laparoscopic nephrectomy (Bozkurt et al., 2017). This complication usually occurs in laparoscopic radical left nephrectomy and laparoscopic left adrenalectomy with an incidence of 2.1 and 8.6% respectively (Varkarakıs et al., 2004). Most of the patients are diagnosed on postoperative period. Herein, I present a case of delayed diagnosed pancreatic fistula after laparoscopic right radical nephrectomy.

Case report

A 42-year-old woman admitted to our hospital with right flank pain of 4 months duration. Physical examination and laboratory tests were unremarkable. Ultrasonography revealed 5 cm solid mass in the upper pole of the right kidney. Computed tomography was consistent with the diagnosis of renal cell carcinoma (Figure 1). The patient was informed about partial vs. radical nephrectomy. She elected to undergo a transperitoneal laparoscopic right radical nephrectomy. No bleeding occurred in peri-operative and postoperative period. After 2 days, the surgical drain was removed. She subsequently developed mild abdominal distension. Ultrasonography revealed 6.5 cm collection. General surgical consultation recommended conservative management. The patient was discharged on the 5th post-operative day.

The patient presented with abdominal pain and distension on the 15th post-operative day. Laboratory results were as follows: white blood cell (WBC) 8,650×10^{6}/l, C-reactive protein (CRP) 379 mg/dl, creatinine 1.91 mg/dl. Computed tomography showed a 10.5 cm collection in the operation field (Figure 2). Percutaneous drainage was performed, and 3,000 ml liquid was evacuated, and a drain was left indwelling. The drainage fluid amylase level was 3,548 U/l and the patient was diagnosed as pancreatic fistula.

Antibiotic therapy was regulated (ceftriaxone 1 g 2×1 iv and metronidazole 500 mg 2×1 iv), somatostatin analogues was given, oral diet without fat was started and drainage decreased to less than 50 ml/24 hours after 10 days. After 2 weeks there was no drainage and ultrasonography confirmed resolution of the collection, and the drainage catheter was removed. The subsequent post-operative course was uneventful. To the best of my knowledge, this is the first report of pancreatic fistula after right laparoscopic radical nephrectomy in the literature.

Discussion

The general incidence of pancreatic fistula is 0.2% following laparoscopic urological surgeries (Varkarakıs et al., 2004). There are five degrees of pancreatic fistula according to the severity. Grade 1: minor contusion without ductal injury; Grade 2: major contusion or tear (>3 cm) without ductal injury; Grade 3: distal transection or proximal tear with ductal injury; Grade 4: transection or proximal tear of pancreas with ductal injury; and Grade 5: disruption of pancreatic head or pancreaticoduodenal disruption. Grade 4 and 5 injuries usually occur in right sided surgery because of anatomic relation of the right kidney with duodenum and pancreas. To the best of my knowledge, this is the first report of pancreatic fistula after laparoscopic right nephrectomy in the literature.

Several mechanisms can be associated with pancreatic fistula during laparoscopic nephrectomy. Pancreatic fistula may occur during a difficult,

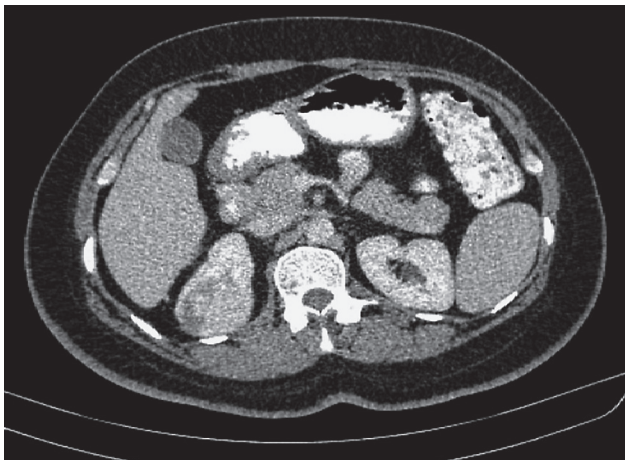

Figure 1: Renal tumour image on computed tomography.

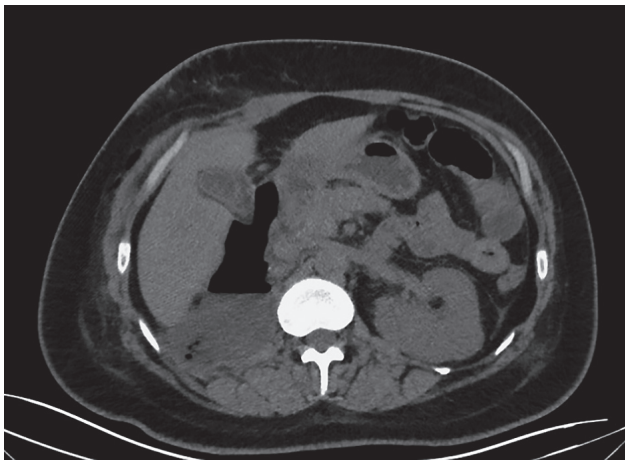

Figure 2: Collection of the pancreatic fluid.

dissection, use of the gastrointestinal anastomosis (GIA) stapler and specimen morcellation (Varkarakıs et al., 2004). In this case I believe the injury occurred while using the GIA stapler for pedicle control.

The diagnosis is usually suggested by abdominal pain associated with elevated serum amylase levels and confirmed by abdominal computed tomography scan (Varkarakıs et al., 2004). In some case the patient is asymptomatic, and the diagnosis is delayed. In this study, the patient had minimal abdominal distention which delayed the diagnosis.

Treatment options are conservative treatment, percutaneous drainage, surgical drainage and invasive modalities including endoscopic sphincterectomy, prosthetic restoration and open surgery (Bozkurt et al., 2017).

Conservative treatment involves discontinuing oral intake, antibiotic therapy and somatostatin analogues. Most fistulas close after drainage and further surgical procedure is seldom necessary. The drains should be left in the surgical bed until the drainage is less than 50 ml/day and fluid amylase levels have returned to the serum levels (Varkarakıs et al., 2004).

Ceylan et al. (2013) reported a case of pancreatic fistula after nephrectomy treated with endoscopic retrograde cholangiopancreatography with pancreatic stent. In the current study, the patient was treated with conservative treatment and percutaneous drainage.

In conclusion, pancreatic fistula is very rare complication after laparoscopic right nephrectomy. This complication should be considered after nephrectomy. Early diagnosis and treatment expedite recovery.

To the history of Dr. Mustafa Kanbay.

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