A pancreatic fistula as a complication of left radical nephrectomy

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KEY WORDS
kidney ▼ nephrectomy ▼ pancreatic fistula

ABSTRACT
A case of a 68-year-old patient who underwent left radical nephrectomy by transperitoneal approach due to a kidney tumor is presented. On the 22nd day after the surgery, a retroperitoneal, pancreatic fluid cistern occurred because of pancreatic fistula formation. The treatment, which comprised percutaneous drainage, somatostatin analogs and total parenteral nutrition (TPN), led to a closure of the fistula 6 days after therapy.

INTRODUCTION
Renal cell carcinomas (RCC) make up approximately 3.6% of all cancers in men and 2.6% in women. The gold standard therapy for RCC is transperitoneal radical nephrectomy. In the selected cases tissue-sparing surgeries, as well as laparoscopic surgeries and nephron sparing surgeries are performed. The surgery of a kidney tumor, especially of large-diameter one, is a challenge for a urologist. One should remember about possible complications: intra- and postoperative bleeding, damage to large vessels and neighboring organs, i.e. colon, small intestine, spleen, and the tail of pancreas. A case of a 68-year-old patient, in whom a cutaneous pancreatic fistula was observed postoperatively, is presented. The formation of a fistula is caused by the damage of pancreatic ducts and formation of a canal connecting pancreatic tissue with the cutis. The conservative treatment that was employed led to a closure of the fistula.

CASE REPORT
A patient, S.F. (aged 68, No. of Patient’s History 6010), was admitted to the department in February 2008 with the primary diagnosis of a left kidney tumor. Ultrasound examination revealed a tumor of a 6-cm diameter in the central part of the left kidney. Urography was within norm. Computed tomography visualized a tumor of a 7-cm diameter in the central part of the renal cortex and, apart from that fact, was within norm (Fig. 1). In laboratory tests, the creatinine level reached 1.37 mg%. The patient was qualified for transperitoneal radical nephrectomy. Intraoperatively, a large inflammatory infiltration in the retroperitoneal area was observed, which impeded surgical dissection. During a release of the colon’s splenic flexure, a massive hemorrhage from the splenic hilus occurred and the decision to perform splenectomy was made. The postoperative period was without complications. The patient received 2 units of packed erythrocytes because of anemization. He was discharged from hospital on the 8th day in a good general condition. The result of pathological examination was as follows: Carcinoma clarocellularis renis solidum, focal microcysticum NG3. Capsula fibrosa renis, hilus renalis et ureter in margine resectionis sine infiltratione carcinomatosa. Glandula suprarenalis sine laesionibus pathologicis (No. of pathological examination 919995-920002, NZOZ Department of Pathology, dr Marlena Rylska-Mościcka). On the 22nd day, during the postoperative period, the patient was readmitted presenting with severe abdominal pain. On admission, physical examination revealed meteorism and pain on pressure in the left half of the abdominal cavity. Ultrasound examination showed a cistern of 14-cm diameter at the site of nephrectomy. Computed tomography visualized post-splenectomy and post-left nephrectomy state. In the postoperative site, two liquid areas with smooth walls having connection with each other were observed. The upper one 100x140 mm caused the diaphragm’s elevation and atelectasis of the basal segments of the left lung. The lower one 110x145 mm embraced the tail of pancreas. A small amount of liquid was observed in the left pleural cavity. The remaining organs were within norm (Fig. 2).

The patient was qualified for percutaneous drainage of the left retroperitoneal area under the control of ultrasonography and about 1700 ml of clear rosy liquid was collected. The drainage in the following days resulted in the collection of 200–400 ml of liquid per day. The amylase level in the liquid was assayed and it...
Pancreatic fistula is a rare, but possible complication of a left radical nephrectomy dependent on the anatomical proximity of both organs. The risk of such a complication increases in cases of large tumors and large inflammatory lesions of kidneys and perirenal tissues. In the majority of cases, conservative treatment is successful.

REFERENCES


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DISCUSSION

Pancreatic cutaneous fistulas are rare, but a possible complication of a kidney surgery [1]. The anatomical proximity of the pancreas to the left kidney plays a key role in this matter. The relevant factors are also the size of the kidney tumor and the coexisting inflammatory infiltration as well. The reason of fistula formation is the imperceptible intraoperative damage to pancreatic tissue and opening of pancreatic ducts [2]. The most important in diagnostics is the increase (at least threefold) of amylase level (usually over 20,000) in the liquid collected from the fistula [3]. The exact localization of the fistula may be revealed during the ERCP and then it is predominantly combined with the procedure of Wirsung’s duct drainage.

In the treatment, conservative therapy is common as well as more and less invasive methods, which are in favor of inhibition of pancreatic liquid formation and its outflow to the duodenum. A spontaneous closure of the fistula due to the drainage was observed on the 33rd-55th day [2]. In 30-50% of cases conservative treatment is successful, which is based on enabling appropriate outflow of pancreatic liquid (in our case with drain J 9 Fr in the retroperitoneal area), discontinuing oral nutrition, antibiotic therapy based on microorganisms species diagnosed [4], and administering somatostatin analogs, which decrease exocrine secretion of the pancreas [5]. Total parenteral nutrition (TPN) usually turns out to be effective in a conservative therapy of pancreatic fistulas, which proved to be successful in our patient as well (a closure of the fistula on the 60th day since TPN introduction). More invasive methods of treatment are endoscopic ones – sphincterectomy, extension of pancreatic duct, or prosthetic restoration of Wirsung’s duct. This is an effective therapy for pancreatic fistulas resistant to somatostatin analogs and TPN [6]. The prosthesis in the lumen of Wirsung’s duct enables free outflow of the pancreatic fluid to the duodenum instead of to the canal of the fistula. The time of closure in such a method of treatment is 15-39 days [7]. The endoprostheses should be changed every 3 months. In some cases a few methods need to be combined simultaneously, e.g. long-acting somatostatin analogs (somatuline subcutaneously 1 dose every 14 days) and prosthetic restoration of the pancreatic duct [7]. If after 6-8 weeks the fistula remains active, surgery is indicated. Usually a drainage surgery is necessary and is most commonly in the form of a fistulojejunostomy [8]. Depending on the localization of the fistula, a resection of the pancreas may be necessary.

CONCLUSIONS

Pancreatic fistula is a rare, but possible complication of a left radical nephrectomy dependent on the anatomical proximity of both organs. The risk of such a complication increases in cases of large tumors and large inflammatory lesions of kidneys and perirenal tissues. In the majority of cases, conservative treatment is successful.

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