CASE REPORT

Delayed Pancreatic Metastasis of Renal Clear Cell Carcinoma

Zane Simtniece*, Gatis Kirsakmens*, Ilze Strumfa*, Andrejs Vanags**, Maris Pavars**, Janis Gardovskis** *Department of Pathology, Riga Stradins University, Latvia **Department of Surgery, Riga Stradins University, Latvia

Summary

Here, we report surgical treatment of a patient presenting with pancreatic metastasis (MTS) of renal clear cell carcinoma (RCC) 11 years after nephrectomy. RCC is one of few cancers that metastasise in pancreas. Jaundice, abdominal pain or gastrointestinal bleeding can develop; however, asymptomatic MTS can be discovered by follow-up after removal of the primary tumour. The patient, 67-year-old female was radiologically diagnosed with a clinically silent mass in the pancreatic body and underwent distal pancreatic resection. The postoperative period was smooth. Four months after the surgery, there were no signs of disease progression. **Key words:** renal carcinoma, pancreatic metastasis, delayed metastasis.

AIM OF THE DEMONSTRATION

The aim of our report is to show delayed metastatic spread of renal cancer affecting pancreas and to discuss the role of radiologic follow-up and surgical treatment.

CASE REPORT

A 67-year old lady was admitted to hospital due to radiologically diagnosed, clinically silent mass in the pancreatic corpus. No pathology was found by laboratory tests including full blood count as well as bilirubin, ALAT, ASAT, glucose, urea, amylase, electrolyte and CRP levels, coagulation tests and urine analysis. Eleven years ago, the patient underwent left nephrectomy due to renal clear cell carcinoma, 4x3x3 cm, T2N0M0 (1997 AJCC TNM staging system), grade II (G2) by Fuhrman classification (I-IV). There were no postoperative complications. Follow-up was initiated by computed tomography (CT) and ultrasound (US) every 6 months. Nine years after nephrectomy, CT revealed uneven shadow in the lower right pulmonary lobe, measuring 1.5 cm in diameter. Videothoracoscopic resection of the V subsegment was performed yielding RCC metastasis. Two years later, hypervascular polycyclic mass 2.1x1.3 cm in the pancreatic corpus was revealed by followup CT in arterial phase after intravenous contrast enhancement (Figure 1). Solitary MTS was suggested and distal pancreatic resection was performed. Histological examination revealed 1.5x2x1.5 cm welldemarcated light brown solid mass, microscopically -RCC metastasis, G2, showing invasion in pancreatic tissues and fat, presence of fibrous pseudocapsule and abundant vascularisation (Figure 2). The resection lines were free of tumour (R0). No malignancy was present in peripancreatic lymph nodes (0/5). The postoperative period was smooth. Four months after the surgery there were no signs of further disease progression.



Fig. 1. Metastasis of RCC (highlighted by the arrow) in the body of the pancreas. Arterial phase of CT



Fig. 2. Metastasis of RCC with pseudocapsule in the pancreatic tissue and peripancreatic fat tissue. Haematoxylin – eosin (HE), original magnification (OM) 50x. Inset: RCC, grade 2, OM 400x

DISCUSSION

Metastases in pancreas are rare, comprising 2-5% of pancreatic tumours. The most frequent corresponding primary tumours are RCC, lung, breast or colorectal cancer and melanoma (2,9).

At the time of initial RCC diagnostics, MTS are present in 20-30% of cases. In clinically localised disease (I-II stage), cancer progression after nephrectomy is observed in 20-40%, mostly (93%) in the first 5 years (4,6). The time and probability of tumour progression depends on T characteristics. The frequency of MTS and average time from nephrectomy to MTS is 7%/ 38 months in T1, 26%/ 32 months in T2 and 39%/ 17 months in T3 RCC. Similarly, the higher is nuclear grade, the more frequent and early is RCC progression (4,9). The RCC recurrence and spread involves local relapse and MTS in lungs, bones, liver, lymph nodes and contralateral kidney (2). MTS of other localisation are considerably less frequent (2,5,9). Pancreatic MTS of RCC constitute 0.25-3% of pancreatic tumours (5,9) and usually are solitary, delayed and frequently (35-50%) asymptomatic (2,3,7,9). The average time from the nephrectomy to the development of pancreatic MTS is 10.5-11.4 years (3,10) but can be as long as 25-32.7 years (8,10). Symptomatic patients develop obstructive jaundice, abdominal pain, gastrointestinal bleeding, pancreatitis and diabetes (7,9). Asymptomatic MTS are found by radiologic follow-up. RCC metastases are hypervascular in the arterial phase of CT, but primary pancreatic cancer is hypovascular (2) except neuroendocrine tumours. Endoscopic US and FNA are additional diagnostic tools (1,2). Surgical resection of MTS considerably improves the 5-year survival rate from 47% in non-operable cases to 88% in surgically treated patients (3,5,9-11). Distal pancreatic resection or pancreaticoduodenectomy is applied depending on the location of the MTS. Some authors suggest atypical resection as duodenum-preserving pancreatic head resection, middle pancreatectomy or tumour enucleation as RCC metastases are usually wellconstrained. However, in order to expect favourable prognosis, only negative resection lines (R0) is the acceptable histological finding. Therefore, considering high relapse risk, atypical resections should be applied in certain exceptional cases only (3). There are no doubts that surgical removal of pancreatic MTS significantly improves patients' life expectancy and is the best solution for treatment of such patients, whenever possible.

In conclusion, nephrectomy for RCC can ensure prolonged survival. Considering the risk of delayed MTS, regular radiologic lifetime follow-up is required for RCC patients and can provide timely diagnostics of MTS before any clinical symptoms appear. The RCC metastases can involve both frequent sites of tumour spread, including lung, and unusual locations, including pancreatic gland, therefore the radiological investigations must be thorough. Early detection of MTS permits successful surgical treatment to limit tumour spread.

Conflict of interest: None

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Address:

Zane Simtniece Department of Pathology, Riga Stradins University, Dzirciema Street 16, Riga, LV-1007, Latvia E-mail: Zane.Simtniece@rsu.lv