CASE REPORT

Synchronous Pancreatic Metastases from Asymptomatic Renal Cell Carcinoma

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ABSTRACT

Context Pancreatic involvement from metastatic renal cell carcinoma accounts for 0.25-3% of the cases. The distinction between primary pancreatic clear cell tumour and metastatic deposits from renal cell carcinoma may lead to diagnostic difficulties. Usually metastasis from renal cell carcinoma presents many years after the primary tumour has been resected. A typical metastatic lesion in pancreas is seen as hyper-vascular lesion on CT scan. Any such lesion should be first biopsied before resection.

Case report We report herein the case of a patient with a solitary pancreatic metastatic head lesion from renal cell carcinoma was successfully resected before asymptomatic primary could be identified.

Conclusions Early identification of pancreatic metastasis from renal cell carcinoma is possible with characteristic appearance on radiological imaging and surgical resection of the metastasis provides better results.

INTRODUCTION

Pancreatic metastases are often difficult to differentiate from primary pancreatic cancers [1]. Metastases to pancreas from renal cell carcinoma (RCC) comprises of 0.25 to 3% of all resected pancreatic specimens in large published series [2, 3]. The metastases usually manifest many years after the nephrectomy [4]. We report successful management of a case presented with synchronous pancreatic metastases from renal cell cancer and had resection of secondary tumour before the asymptomatic primary could be identified.

CASE REPORT

A 63-year-old male presented two week history of pale stools, dark urine, pruritis and upper abdominal pain. He did not have any urinary symptoms. On examination he was jaundiced. The abdominal and per rectal examination were unremarkable. His liver function tests were deranged with bilirubin 121 μmol/L (reference range: 3-15 μmol/L), ALT 127 IU/L (reference range: 5-35 IU/L), alkaline phosphatase 95 IU/L (reference range: 100-300 IU/L) and albumin 52 g/L (reference range: 37-49 g/L). Urinanalysis was normal except presence of bilirubin. Ultrasound of abdomen showed dilated common bile duct with intra-hepatic duct dilatation with presence of 2-cm hypoechoic lesion in the head of pancreas and an arterio-venous malformation in left pole of kidney. CT scan of the abdomen with contrast showed a 2-cm low attenuation lesion in the

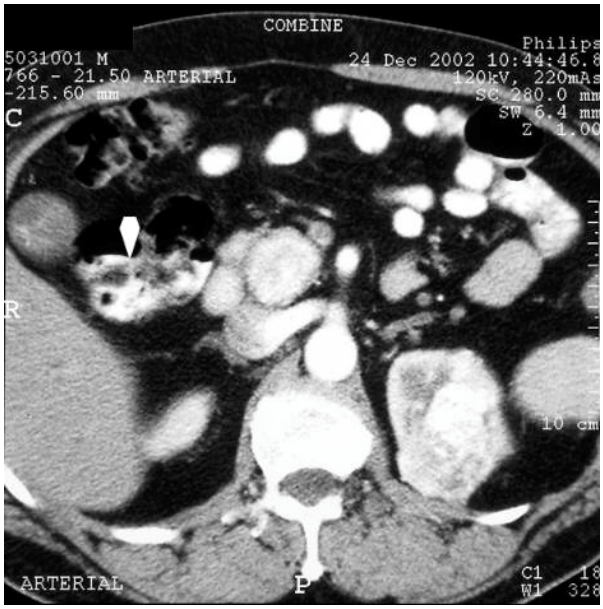

Figure 1. Computed tomogram showing a hyper-vascular pancreatic metastases from renal cell carcinoma (arrow).

pancreatic head with a hypervascular rim and atrophy of the rest of the gland (Figure 1). The appearances were suggestive of a malignant tumour within the head of the gland. The left upper pole of the kidney had appearances of an arterio-venous malformation and this was consistent with the ultrasound findings. There was no evidence of upper abdominal lymphadenopathy, free fluid or metastatic lesions in the liver, and CT of the chest was normal. ERCP showed an irregular stricture of the lower third of the bile duct suggestive of malignant obstruction so a stent was inserted. In view of the CT and ERCP findings, it was concluded that this was a resectable primary pancreatic tumour. The patient underwent pylorus preserving pancreatico-duodenectomy and made an uneventful recovery from the operation. Histopathology of the resected specimen revealed a hyper-vascular clear cell tumour confined to the pancreatic head with areas of venous permeation. Immunohistochemical staining suggested tumour cell originating from was renal cell carcinoma.

The MRI scan was done to evaluate the kidney lesion. This showed features of an arterio-venous malformation in the left kidney along with a 3-cm solid mass bulging from the posterior aspect of the left upper pole suggestive of a renal cell carcinoma. There was no evidence of extra-renal involvement. The patient had left radical nephrectomy after 6 weeks of his pancreatic resection and a discrete exophytic tumour in the left upper pole was found. Histology confirmed a renal cell carcinoma of the left kidney, composed mainly of clear cells. The TNM stage was pT3b, pNx, pM1. Again, the patient made an uneventful post-operative recovery.

At 6-month follow-up, he presented with lump in the neck. On clinical examination, it was a solitary nodule in the left lobe of thyroid and this was confirmed on ultrasound scan to be hypoechoic lesion suggestive of malignancy. Fine needle aspiration cytology (FNAC) from the thyroid lump was suggestive metastases from renal cell carcinoma. The patient underwent left hemi-thyroidectomy and histology confirmed a metastatic renal cell carcinoma of 3.2 cm size with complete resection. He did not have any evidence of further recurrences after six month follow-up after thyroidectomy.

DISCUSSION

Pancreatic metastases from renal cell carcinoma are rare and often asymptomatic in more than 50% of cases but some patients do present earlier with symptoms including weight loss, abdominal pain, and jaundice [4]. It is rare to have solitary metastases to pancreas, more often it is involved as part of diffuse metastatic disease [5]. The presentation is usually many years later after resection of the primary renal cell carcinoma. In a large published series by Bassi *et al*., the median time interval between nephrectomy and metastases was 10.5 years [4].

The preoperative diagnosis of pancreatic metastases is based on suspicion from the history in patients with previous resection of renal cell cancer. The CT scan and MRI are choice of imaging modality. Hyper-vascular lesions are more likely to represent metastases or neuro-endocrine tumour as the primary pancreatic tumour tends to be relatively hypovascular [6]. Endoscopic ultrasound can also be used for imaging and lesions are

typically rounded, well delineated masses which are hypoechoic in comparison with adjacent pancreas and fine needle aspiration can be done for tissue diagnosis [7].

The survival rate in patients with metastatic renal cell carcinoma is poor. Maldazys and DeKernion reviewed 181 cases of metastatic RCC and found a poor 5-year survival equal to 9% [8]. The aggressive surgical treatment of pancreatic metastases from RCC has shown better survival [2, 3]. Compared to other common pancreatic tumours, metastases from RCC have a high resectability rate in up to 80% of patients [3]. Bassi *et al*. found significant difference in 24 and 60 month survival comparing patients who had resection of metastases to who did not undergo surgery [4]. The patients who had longer disease-free intervals before recurrence after primary RCC resection also shown better survival rates [3]. Also, the site of recurrence influenced prognosis. Other factors associated with a favourable prognosis are evidence of a solitary lesion on radiological studies, and extensive necrosis in the specimen [3].

Metastases in pancreas are suspected on the CT appearance of hyper-vascular lesion and should be further evaluated with endoscopic sonography and biopsy. A primary tumour of renal cell origin should be suspected on any abnormality noted in kidneys on imaging in the presence of metastatic lesion in pancreas. When metastases are limited to the pancreas, surgery can provide 31% 5-year survival rate [3]. The lesions are multifocal in 30% of patients and resectable in 80% of cases [4]. Overall there is an excellent prognosis for RCC patients with surgical resection of pancreatic metastases depending on their general state of health.

Received November 7th, 2004 - Accepted November 15th, 2004

Keywords Carcinoma, Renal Cell; Neoplasm Metastasis; Pancreas

Abbreviations FNAC: fine needle aspiration cytology; RCC: renal cell carcinoma

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