Introduction

Tumors of the renal and perirenal tissues comprise 2% to 3% of all adult visceral tumors, and renal cell carcinoma (RCC) represents 85% of all renal parenchymal tumors.[1] The most common sites of metastases of RCC in decreasing order are lymph nodes, lung, bone, adrenal, liver, opposite kidney, and brain.[2] The pancreas is an uncommon site of RCC metastasis.[3,4] We report a rare case of isolated RCC metastasis to the head of the pancreas detected six weeks after a left radical nephrectomy that was successfully treated by pancreaticoduodenectomy.

Case Report

A 40-year-old man was admitted at the Istituto di Clinica Chirurgica III, Policlinico Sant'Orsola, Bologna University, with obstructive jaundice, weight loss, fatigue, pruritus, and anorexia. Six weeks before the onset of symptoms, the patient had a radical left nephrectomy for a 11 x 7.5-cm RCC. The tumor was poorly differentiated and invaded the perinephric tissue. There was a neoplastic vascular embolus at the renal hilus (T3b, N0, M0).[5]

Laboratory tests showed elevations in serum bilirubin (total 8.9 mg/dL vs direct 8.3 mg/dL), alkaline phosphatase, and transaminases. Other investigations to exclude extrapancreatic diseases were normal. Endoscopic retrograde cholangiopancreatography revealed an abrupt stricture of the pancreatic duct. A computed tomography (CT) scan of the abdomen and pelvis revealed a 2 x 2.5-cm localized mass in the head of the pancreas with a dilatation of the extrahepatic biliary ducts and gallbladder (Fig 1). The pancreatic mass was absent on the CT scan obtained prior to the nephrectomy.

At laparotomy, a mass was palpable on the head of the pancreas. Pancreaticoduodenectomy was performed with para-aortic and para-caval lymph node dissection. The recovery period was uneventful.

Macroscopic examination of the specimen showed a 3-cm mass occluding the intrapancreatic common bile duct. Microscopic examination revealed the presence of clear and undifferentiated carcinoma (cytokeratin 18 and vimentin-positive) compatible with metastatic RCC to the pancreas, which was confirmed by comparison with the previous RCC (Figs 2A-B, 3A-B). A metastatic parapancreatic lymph node also was detected.

An adjuvant treatment with vinblastine plus alpha-interferon was prescribed. The patient is alive with no evidence of disease at 16 months of follow-up.

Discussion

RCC may be surgically cured when localized. When distant metastases are present, disease-free survival is poor, although some patients will survive after surgical resection of all known tumor. Among 506 patients with RCC reviewed by McNichols et al.[6] 158 patients have survived 10 years longer, and 11% of these had late metastases. Hayes[7] has shown a five-year survival of 30% of patients with surgical removal of isolated pulmonary metastases. Slow tumor growth and long survival has been described for those who underwent resection of late solitary metastasis from RCC.

The main factors that correlate with a favorable survival after removal of solitary metastatic RCC are a long interval from the primary tumor and the demonstration of extensive necrosis in the specimen.[8,9]

Few cases of solitary RCC metastasis to the pancreas have been described. The incidence of such lesions is reported to be approximately 1% to 3% of all RCC.[10] Since the interval between the primary diagnosis and metastatic disease can be long,[11,12] solitary metastasis to the pancreas often is an unsuspected clinical problem and is not high in the differential diagnoses of a pancreatic mass.[13,14] The mechanism of pancreatic metastases may involve direct invasion (tail involvement in left RCC) or lymphatic and hematogenous spread. Hematogenous spread is common when neoplastic thrombus is present in the renal vein.

A review of the literature revealed only 16 cases of surgical resection of metastatic RCC to the pancreas.[8] Even though the series is small and the follow-up is short, preliminary data on the survival of these patients (nine to 60 months) are encouraging.
References


