

Renal Cell Carcinoma with Solitary Synchronous Pancreaticoduodenal and Metachronous Periprostatic Metastases: Report of a Case

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Abstract: We report herein the case of a patient who underwent successful resection of a solitary metachronous periprostatic metastasis 12 months after undergoing a right radical nephrectomy with pylorus-preserving pancreaticoduodenectomy for renal cell carcinoma (RCC) with a synchronous pancreaticoduodenal metastasis. At present the patient is free of any signs of recurrence 12 months after removal of the metachronous mass in the periprostate. This case report supports the opinion that an aggressive surgical approach is appropriate for RCC metastasis.

Key Words: renal cell carcinoma, metastasis, pancreas, duodenum, periprostatic

Introduction

Approximately one-third of patients with renal cell carcinoma (RCC) already have metastasis at the time of diagnosis, while another third develop widespread disease subsequent to nephrectomy, even though the original tumor appeared to be localized.¹ When metastases are detected, the majority of patients have multiple organ involvement or a solitary metastatic lesion in a location that hinders a surgical approach.² Only a very small number of these patients, estimated at between 1.6% and 6%, present with metastatic lesions that are amenable to surgical extirpation.¹⁻³ In some of these patients, aggressive surgery, often requiring several operations, can result in a significantly longer survival.^{3,4} We recently experienced one such case of a patient operated on for RCC with a solitary synchronous

pancreaticoduodenal metastasis who subsequently developed a solitary metachronous periprostatic metastasis. This patient was successfully treated by aggressive surgery, and is doing well 2 years after the initial surgical approach.

Case Report

A 63-year-old man presented with right flank pain and melena. He had experienced some recent weight loss but was otherwise well. Ultrasound examination of the abdomen showed a solid right-sided renal mass as well as a pancreatic head mass. An abdominopelvic computed tomography (CT) scan confirmed the presence of a right renal tumor, 15 × 14 cm in size, as well as a pancreaticoduodenal mass, 7 × 5 cm in size (Fig. 1). A gastroduodenoscopy was performed and cold-cup biopsies of the hemorrhagic areas at the second part of the uodenum demonstrated involvement with RCC. Further metastatic workup, consisting of liver function tests, chest CT, head CT, and radionucleotide bone scan, were all negative. The erythrocyte sedimentation rate was 40 mm at 1 h and the serum ferritin level was 6.2 ng/ml. Urine analysis revealed microscopic hematuria. A right radical nephrectomy was performed through an anterior transverse incision, together with pylorus-preserving pancreaticoduodenectomy, following which the pancreatic stump was anastomosed to the stomach. The choledochojejunal anastomosis was done using a T-tube. An omental flap was used to protect the anastomoses and splanchnic vessels exposed during dissection.⁵ The frozen sections of both the intestinal and pancreatic surgical margins confirmed no involvement. Although no lymph nodes larger than physiological size were found, a limited regional lymphadenectomy was performed. The patient was discharged on the eighth postoperative day after an uneventful recovery. When normal passage without extravasation was found on

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Fig. 1. Preoperative computed tomography (CT) scan showing a right renal mass (*t*) and pancreaticoduodenal involvement (*d*)



Fig. 2. Follow-up CT scan done 1 year after the initial operation showing a periprostatic mass (*m*), the prostate (*p*) displaced to the left side, and the rectum (*r*)

T-tube cholangiography, the T-tube was removed and no consequent complications developed.

On pathologic examination, we found clear cell renal carcinoma with no renal capsule, perinephric fat, vascular structures, or lymph node involvement. The pancreaticoduodenal specimen demonstrated intraluminal duodenal and pancreatic head extensions of the metastatic lesion which was also found to be RCC. The histomorphology of this tumor mass showed a histologic pattern identical to that of the primary RCC. The patient was given adjuvant interferon immunotherapy on a clinical protocol.

At a follow-up examination 12 months after this operation, evidence of a periprostatic mass was found on a CT scan (Fig. 2). The patient did not report having experienced any voiding difficulties. His serum prostate specific antigen level was 1.6 ng/ml and a digital rectal examination revealed a prostate of normal consistency, which was slightly displaced laterally to the left side due to an adjacent palpable solid mass showing mild irregularity. Transrectal ultrasound examination showed no prostate abnormality other than this displacement, but the plane between the prostate and the mass was not clear. An ultrasound-guided core biopsy performed transrectally showed periprostatic involvement of the RCC.

The patient agreed to our recommendation of radical surgery and gave written consent approving radical prostatectomy if it was found to be necessary. The abdomen was entered via the anterior retropubic approach through a midline incision below the umbilicus. As soon

as the endopelvic fascia was incised, the mass was encountered. The periprostatic venous plexus was intact. The mass was well demarcated and encapsulated, which allowed complete removal.

The histopathologic diagnosis was RCC, as the excised specimen showed exactly the same properties as the original renal counterpart. CT scans done 80 days after the second operation revealed no evidence of pelvic (Fig. 3) or abdominal disease (Fig. 4), and a complete metastatic workup done 11 months later confirmed a status free of recurrence.

Discussion

Only 4% of RCCs metastasize to the small intestine, with duodenal metastasis occurring less frequently than metastasis of other segments of the intestine.⁶ Massive gastrointestinal bleeding, being a common manifestation, is usually managed by transcatheter embolization of the gastroduodenal artery, and these patients do not seem to be good candidates for curative surgery.⁷ In a large autopsy series of 6991 males with malignancy, only 2 cases of cancer metastatic to the prostate were found among 225 cases of metastatic RCC.⁸ Furthermore, to our knowledge, only two cases of metachronous involvement of the prostate by a primary



Fig. 3. Follow-up CT scan after removal of the periprostatic mass

RCC have been reported in the literature.^{9,10} The case reported herein is of special interest in that besides the patient having a surgically treated synchronous pancreaticoduodenal RCC metastasis, it is the first known case of periprostatic localization of a metachronous metastasis of RCC without prostatic or periprostatic vein involvement for which complete surgical removal was feasible. We speculate that the mechanism of dissemination in this patient was most likely hematogenous for both the pancreaticoduodenal and periprostatic involvement.^{7,10} Initially, we were doubtful about whether the latter lesion was really metachronous periprostatic involvement of RCC, which is well known as a slow-growing neoplasm. Our efforts to confirm the possibility that he had had periprostatic metastasis at the time of initial surgery failed even when meticulous retrospective analysis of previous CT scans was carried out.

This case report illustrates the unpredictable presentation and propensity for unusual sites of dissemination of RCC, and indicates that the excision of metastasis when and wherever possible may result in better chances of survival for these patients.²⁻⁴

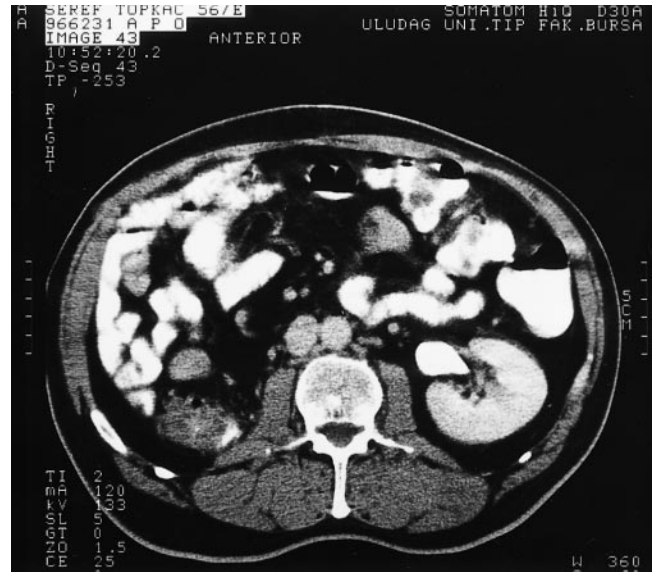


Fig. 4. Follow-up CT scan of the upper abdomen carried out at the same level as the preoperative CT scan

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