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SILENT PANCREATIC METASTASIS FROM RENAL CELL CARCINOMA DIAGNOSED AT ARTERIOGRAPHY

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The pancreas is uncommon site of metastasis from renal cell carcinoma. It is extremely rare to diagnose renal cell carcinoma with metastasis to the body of the pancreas before surgery. We report such a case diagnosed incidentally on arteriography. Partial pancreatectomy with splenectomy was performed at the time of radical nephrectomy. Reported cases of metastatic renal cell carcinoma to the pancreas are reviewed briefly.

Key words: Pancreatic metastasis, Renal cell carcinoma, Partial pancreatectomy

INTRODUCTION

The management of renal cell carcinoma having local and/or distant metastasis when first seen is challenging problem to the urologist[1~2]. This probability is increasing as the diagnostic techniques are improving gradually. Having made the careful diagnosis, the urologist must decide on the operability of the distant spread in addition to the primary neoplasm weighing the patient's welfare after operation. Most of the surgical problems are related to the regional lymph nodes and to the renal vein and vena cava. Less commonly distant spread to other organs may be the surgical problems when localized in the resectable state. Though the prognosis in such cases are grim, there are numerous reports of long-term survivors, response to various postoperative adjuvant therapies and in rare occasions spontaneous regression in the unresectable distant spread.

Herein we report a case of renal cell carcinoma with metastasis to the body of the pancreas diagnosed at the time of renal and celiac arteriography. Experience with the case with the rare metastasis diagnosed before surgical treatment of the primary right renal cell carcinoma prompted us to review the relevant world literature[3~7]. As a result we could not observe the case report of the resected renal cell carcinoma with silent pancreatic metastasis diagnosed at the time of preoperative workup.

CASE REPORT

A 76-year-old man with the diagnosis of right renal cell carcinoma was referred to our department for further checkup and treatment on August 13, 1980. Scrotal discomfort and fever higher than 38°C in the evening made him visit to one of the affiliate hospitals in July 1980. Physical examination on admission revealed a palpable right kidney 2 fingerbreadths below right costal margin. Hematological values included hemoglobin 8.0 g/dl and white blood cells 4,800. Erythrocyte sedimentation rate (ESR) was 120 mm/hr, C-reactive protein (CRP) 6+ and haptoglobin 462 mg/dl. Urinalysis revealed microscopic hematuria and cytology was class I. A couple of small circular opaque shadows at the right lower lung field suspicious of metastatic lesion were demonstrated on tomography. Excretory urography (IVP) revealed a large mass at the upper portion

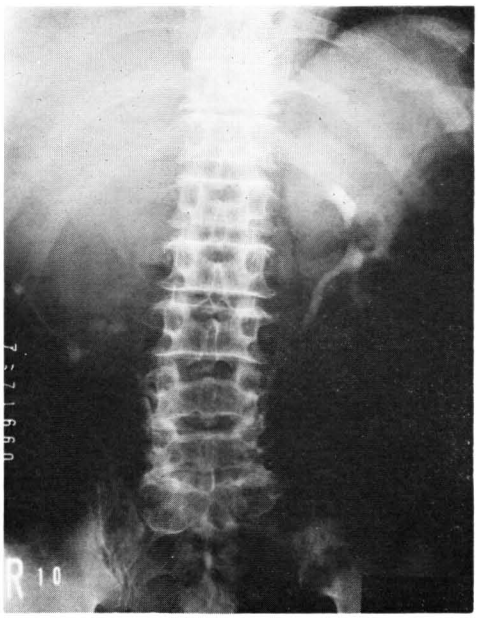

Fig. 1. IVP shows a large mass at the upper portion of the right kidney distorting calices downward.

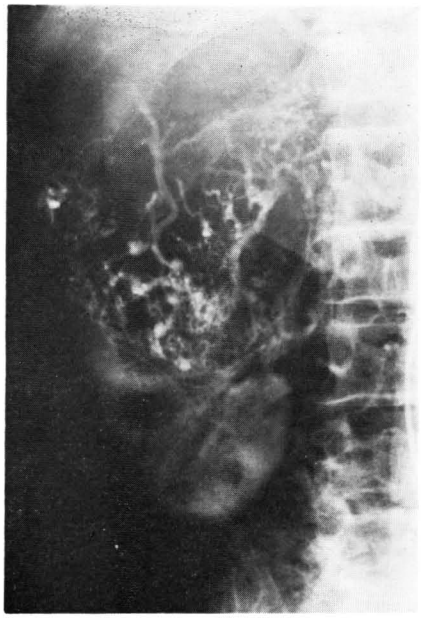

Fig. 2. A. Selective right renal arteriogram demonstrates hypervascular renal carcinoma.

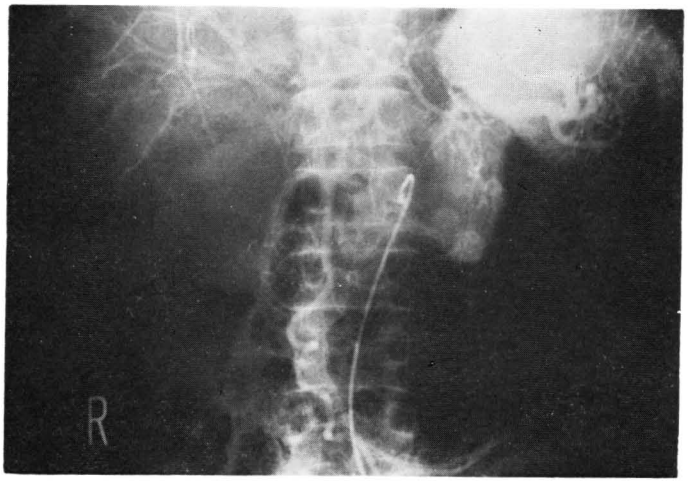

Fig. 2. B. Celiac arteriogram reveals a nodular neovascularity, which was later confirmed as a metastatic lesion at the body of the pancreas.

of the right kidney distorting calices downward (Fig. 1). Hepatic involvement could not be determined on computed tomography. Selective right renal arteriography revealed a relatively large hypervascular neoplasia at the upper portion of the kidney (Fig. 2,A). Renal venography and inferior cavography were non-contributory.

To determine the resectability of the renal cell carcinoma without doing harm to the adjacent liver proper, celiac arteriography was subsequently done (Fig. 2,B). Hepatic arteriography was non-contributory. However, a nodular neovascularity approximately 1.5 cm in diameter was found at gastroepiploic or inferior pancreatic artery. Gastroscopic examination was non-contributory. Due to the gradual deterioration of anemia and repeated bouts of high fever, patient's condition became worse gradually.

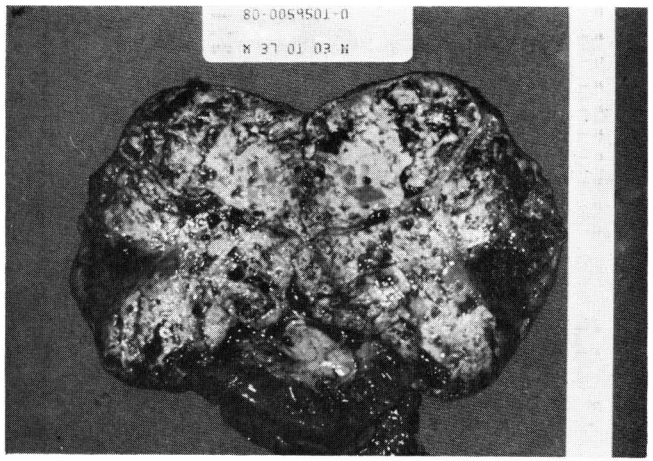

Fig. 3. A. On cut section resected right kidney was replaced with neoplastic mass except for lower region.

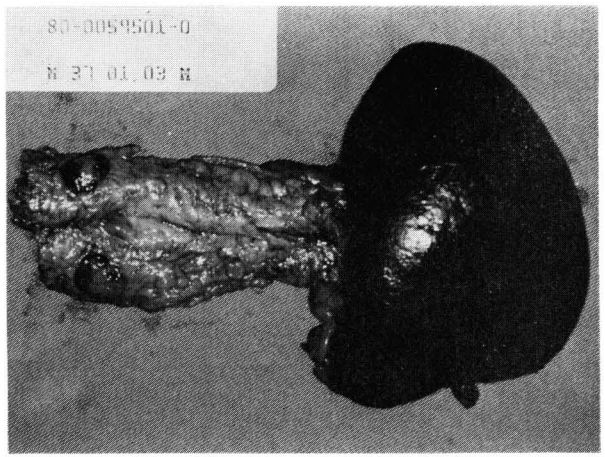

Fig. 4. A. Cut section of the resected body and tail of the pancreas demonstrates a solitary lesion at the body.

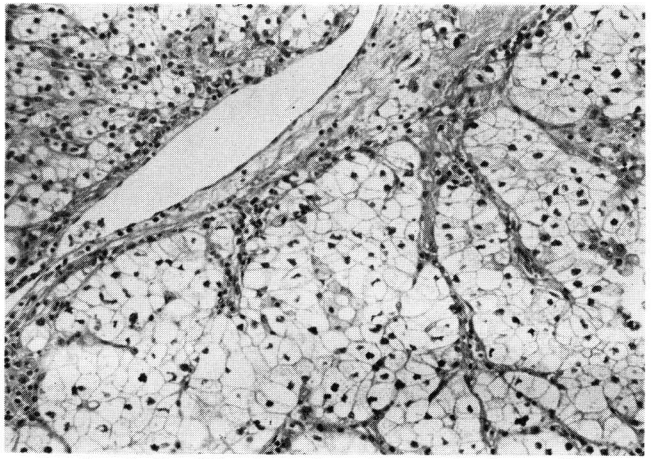

Fig. 3. B. Histological study reveals clear cell carcinoma. Reduced from ×200.

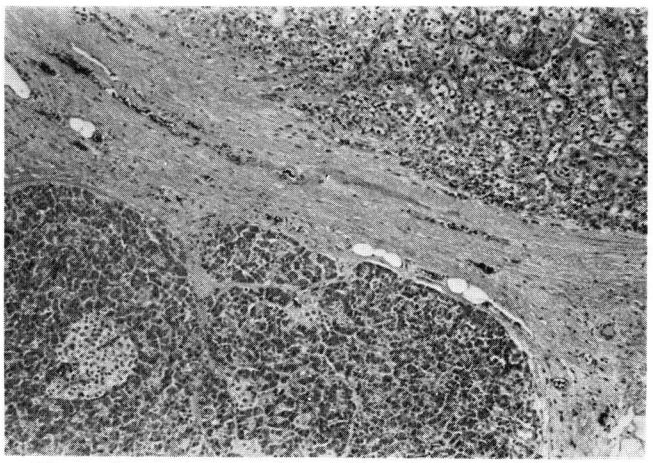

Fig. 4. B. Pathology of the solitary lesion at right upper portion reveals neoplastic cells with characteristics of clear cell carcinoma of the kidney. Lower left is uninvolved pancreatic tissue. Reduced from ×100.

With the tentative diagnosis of pancreatic metastasis, surgery was undertaken on August 28.

After embolization of the right renal artery, the abdomen was entered through a midline vertical incision. With careful exploration there were no abnormalities except for right renal tumor and a circular mass palpable at the pancreas. Radical nephrectomy was done successfully. Retroperitoneal lymph nodes were non-remarkable. With careful exploration a solitary, well-demarcated, nodular mass approximately 1.5 cm in diameter was felt at the body of the pancreas. Decision was made to perform the partial pancreatectomy (body and tail) and splenectomy. Though the postoperative admission period was prolonged the patient was discharged in good condition. Episodes of high fever disappeared completely. ESR and haptoglobin returned to the normal ranges. Nine months after operation the patient is doing well and visits the affiliate hospital regularly for further checkup and treatment.

PATHOLOGY

Resected right kidney weighed 750 gm and was almost completely replaced with yellowish neoplastic mass $16 \times 12 \times 4$ cm in diameter, except for the lower portion of the kidney (Fig. 3,A). Histological examination revealed clear cell components in the neoplastic mass (Fig. 3,B). With careful microscopic examination small neoplastic nests were recognized at the lower portion of the kidney. Histologically dissected lymph nodes and spleen were free from the involvement of neoplastic cells. Cut section of a solitary nodule at the pancreatic body was browny and 1.3×1.5 cm in diameter (Fig. 4,A). The pathologic specimen revealed neoplastic cells having the same characteristic appearance of clear cell carcinoma of the kidney (Fig. 4,B).

DISCUSSION

Renal cell carcinoma is known to express pleomorphic characteristics in its development. It is well known that the metastatic spread of renal cell carcinoma may develop in any organ. It may be multiple but may occur solitary. It may be silent but do manifest its peculiar signs before the primary lesion expresses its characteristic ones. Furthermore this metastatic spread may occur many years after successful nephrectomy.

Generally, lungs, bones, lymph nodes, liver and brain are regarded as the main sites of metastases from renal cell carcinoma. Though metastases to the gastrointestinal tract are relatively rare, sporadic reports with gastrointestinal metastasis can be observed relatively easy on perusal of the relevant literature[8,9]. The pancreas, however, is reportedly one of the least metastatic sites[10~12]. Indeed metastasis to the pancreas from renal cell carcinoma is an uncommon finding even in autopsy material[13~16]. As a case report only 5 cases of renal cell carcinoma with pancreatic metastasis have been reported to date[3~7]. In all cases, however, renal cell carcinoma and pancreatic metastasis were diagnosed separately. Some metastases were diagnosed many years after successful nephrectomy, and others had been diagnosed before renal cell carcinoma was diagnosed clinically.

In 1969 Franciosi and Russ[5] reported a case with metastasis from left renal cell carcinoma, which was operated on successfully 13 years previously, to the head of the pancreas causing obstructive jaundice. This patient, however, expired one month after cholecystoduodenostomy to relieve the bile duct obstruction.

Marquand and associates[6] reported in 1971, a case which presented with jaundice secondary to the obstruction of the metastatic tumor at the head of the pancreas. The patient underwent right radical nephrectomy one month after cephalic duodenopancreatectomy and was doing well two and a half years thereafter. They referred to three similar cases in their literature and emphasized the importance of the surgical removal of a single metastasis when the removal of the primary tumor was feasible.

The case reported by Hermanutz and Sonnenberg[7] in 1977 was similar to those of other authors. Duodenal invasion in ad-

dition to the metastasis to the pancreatic head was discovered due to gastrointestinal disturbances 14 years after successful nephrectomy.

Our case was different in some aspects from the previously reported cases. Despite the absence of gastrointestinal symptoms the pancreatic metastasis was found coincidentally at the time of celiac arteriography to rule out the neoplastic involvement of the adjacent liver. Previous computed tomography could not reveal if the hepatic involvement had taken place. At surgery a well-demarcated solitary lesion was localized at the body of the pancreas. The body and tail of the pancreas were resected en bloc at the time of radical nephrectomy expecting that the suspected pulmonary shadow might regress spontaneously after removal of the primary and metastatic solitary lesions or might respond to postoperative adjuvant therapies.

Therefore we emphasize the importance of the thorough diagnosis of renal cell carcinoma to assess not only the presence of the malignancy but the operability of the primary and metastatic lesions. To the best of our knowledge we do not know a case with silent metastasis from renal cell carcinoma to the body of the pancreas whichw as diagnosed coincidentally at the time of arteriography.

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和文抄録

血管撮影で診断された腎癌を原発とする無症候性膵転移の1例

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腎癌の膵転移は稀であり，原発巣治療前に切除可能な膵転移が診断されることはさらに稀である．われわれは，膵体部に転移を伴った腎癌を偶然診断し，腎摘時に膵部分切除および脾摘除術を同時に施行した．術後約9カ月たった現在，患者は健在で紹介病院外来に通院している．

本論文では膵転移を伴った腎癌の1例を報告するとともに若干の文献的考察も加えた．