Solitary Renal Metastasis from Rectal Adenocarcinoma

Ichiro Takeuchi, Motohiro Kanazawa, Kazuhiro Nakajima*, Yasushi Suganuma**, Atsushi Tatebe*** and Yoshio Naya

Department of Urology, Matsushita Memorial Hospital
*Department of Radiology, Matsushita Memorial Hospital
**Department of Surgery, Matsushita Memorial Hospital
***Department of Pathology, Matsushita Memorial Hospital

Abstract: A 68-year-old man with rectal adenocarcinoma had undergone rectal low anterior resection in December of 2001. He had been diagnosed as having liver metastasis from rectal adenocarcinoma 16 months after surgery, and had undergone left lobectomy of the liver. Two years after the lobectomy, follow-up Computed Tomography (CT) demonstrated a solitary tumor of the left kidney. In order to determine whether this was a primary or secondary tumor, CT-guided percutaneous renal tumor biopsy was performed. The pathological diagnosis was renal metastasis from rectal adenocarcinoma. There was no metastasis other than renal metastasis at that time. Therefore, retroperitoneoscopic nephrectomy was performed. Two months after the surgery, multiple metastases (brain, lung, liver, and right adrenal gland) were demonstrated, and he is being treated with chemotherapy.

Key words: Renal metastasis, Rectal adenocarcinoma

Introduction

Secondary tumors of the kidney are not so rare on autopsy, but cases that are diagnosed radiologically and pathologically ante mortem are rarely reported\(^1\), \(^2\). We present a case of renal metastasis from rectal adenocarcinoma.

Case Report

A 68-year-old man had undergone rectal low anterior resection in the department of surgery at our hospital in December 2001. Histological examination of the resected organs showed the presence of adenocarcinoma pT2N1 Dukes C. He was diagnosed as having liver metastasis from rectal adenocarcinoma 16 months after the surgery, and underwent left lobectomy of the liver. Two years after lobectomy, the follow-up CT demonstrated a tumor of the left kidney, and 18 months after the lobectomy, the size of the mass was bigger on the second follow-up CT. Then he was referred to our outpatient clinic for further examination of the left renal tumor. CT demonstrated an enhanced mass measuring approximately 2cm diameter and showing irregular border in the left kidney (Fig. 1).
Fig. 1
Enhanced CT demonstrated an enhanced mass measuring approximately 2 cm and showing irregular border in the lower pole of left kidney.

Power Doppler imaging showed an isoechoic hypovascular mass, and magnetic resonance imaging (MRI) demonstrated a minimally enhanced mass in the lower pole of the left kidney. It was difficult to diagnose the lesion as primary or secondary tumor based on radiological findings. Therefore, a CT-guided percutaneous renal tumor biopsy was performed. Histopathological examination demonstrated features of rectal adenocarcinoma. Previous literature reported that nephrectomy is useful in patients with a solitary renal metastasis, while other studies reported that nephrectomy may not be required. Because of the controversy regarding surgical indications, we informed the patient and his family and discussed the treatment options for metastatic renal tumor. After the discussion, they expressed a desire to undergo nephrectomy. Therefore, he underwent left retroperitoneoscopic nephrectomy on July 21 of 2004. The histological examination of the resected organs showed the presence of metastatic well-differentiated adenocarcinoma of the rectum. (Fig. 2). The patient complained headache 2 months after the nephrectomy. MRI demonstrated brain metastases. He underwent gamma knife therapy and brain tumorctomy in October 2004. In November 2004, CT demonstrated the presence of multiple metastases (lung, liver, and right adrenal gland), and he is currently receiving chemotherapy.

Discussion
Secondary tumors of the kidney are not so rare on autopsy, however, cases of renal metastasis that are diagnosed radiologically and pathologically ante mortem are rarely reported. Choyke et al. reported the clinical and radiological features of 27 patients with renal metastases. The primary malignancies were carcinoma of the lung (seven patients), adenocarcinoma of the colon (six patients), malignant melanoma (four patients), and others. Of the 27 patients, 23 patients had no symptoms, and 4 patients complained gross hematuria.

On Radiological examinations, renal
metastases were usually small and multifocal lesions; however, metastases from colon, lung, and breast carcinoma sometimes were large and solitary. Solitary metastasis was indistinguishable from primary renal cell carcinoma. CT is the most sensitive modality, followed by ultrasonography and intravenous urography. A CT or ultrasound-guided percutaneous renal tumor biopsy was performed to determine whether primary or secondary tumor. In our case, the patient had a very small solitary renal tumor, therefore we were unable to distinguish primary from secondary renal tumor on any radiological examinations. He underwent a CT-guided percutaneous renal tumor biopsy.

Maeda et al. reported 136 cases of renal metastases. Patients with renal metastases were treated with a nephrectomy, chemotherapy, radiation therapy, transarterial embolization of renal artery, and others. The 1- and 2-year overall survival rates of patients following nephrectomy were 43.9% and 32.9%, respectively. In contrast, the 1- and 2-year overall survival rates without nephrectomy were 6.1% and 0%. Therefore, Maeda et al. reported that nephrectomy was useful in patients with a solitary renal metastasis and 72% of patients underwent nephrectomy. In contrast, other authors indicated that nephrectomy is almost never required except in extenuating circumstances, such as uncontrollable renal hemorrhage, because renal metastasis should be suspected of indicating the presence of systematic metastases. Choyke et al. reported that over half of 27 patients died within 3 months after discovery of the renal metastasis was detected. In our case, we explained and discussed the controversy regarding surgical treatment with the patient and his family. The decision was then made to perform nephrectomy. However, other metastases appeared within 3 months after the surgery. In conclusion, the clinical efficacy of nephrectomy for renal solitary metastasis is questionable.

References

直腸癌孤立性腎転移の 1 例

竹内一郎、金沢元洪、中島和弘*、菅沼　泰**
建部　敦***、納谷佳男

松下記念病院　泌尿器科
*松下記念病院　中央放射線部
**松下記念病院　外　科
***松下記念病院　中央臨床検査部

症例は68歳、男性、直腸癌に対し低位前方切除術を2001年11月に施行、その16カ月後肝転移再発に対し肝左葉切除術を施行されていた。肝切除術後2年の経過観察目的のCTで、左腎に孤立性腫瘍を指摘され、泌尿器科会診となった。腫瘍発生転移性のものかを確認するために施行したCTガイド下の腎腫瘍生検の結果、直腸癌の腎転移と診断された。この時点で他に転移再発巣を認めなかった。後腹膜鏡下に左腎摘除術を施行した。2カ月後のCTで脳・肺・肝・右副腎に転移再発を認め、化学療法を開始した。

キーワード：転移性腎腫瘍、直腸癌