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Metastatic Renal Cell Carcinoma of the Gallbladder

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Metastatic renal cell carcinoma is renowned for its potency to spread to almost any organ of the body; however metastasis to the gall bladder is very rare. We present a case of a 48 year old man who initially demonstrated renal cell carcinoma, and in who gallbladder metastasis was later detected. A review of the literature revealed only a small number of cases of renal cell carcinoma metastasizing to the gallbladder, and these were primary found upon necropsy. Gall- bladder metastasis in this case was detected clinically.

Key Word: Gall bladder, renal cell carcinoma, metastasis

INTRODUCTION

Renal cell carcinoma (RCC) is a relatively rare tumor, accounting for approximately 3% of adult malignancy. RCC has a high metastatic potential and 25% to 57% of patients exhibit overt evidence of metastatic disease at the time of initial presentation.[1] Although RCC is known to metastasize primarily to the lungs, lymph nodes, bone, liver, brain and ipsilateral or contralateral adrenal glands,[2] unusual metastatic sites such as the epidermis, urinary bladder and corpus cavernosum have been cited in several published reports and autoptical studies.[3] The gallbladder is a rare site of distant metastasis and in such cases, most of the primary tumor has been shown to be malignant melanoma.[2] A review of the literature revealed only a small number of reports of gallbladder metastasis of RCC, of which two were discovered at autopsy.[4-7] We report a case of RCC presenting with gallbladder metastasis following initial nephrectomy due to renal cell carcinoma.

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CASE REPORT

A 48-year-old man was admitted to our hospital with a gallbladder polyp. History revealed a left nephrectomy in 1996 due to renal cell carcinoma, stage pT3cN0cM0 (Fig. 1) and a wedge resection of a scalp mass due to metastasis 2 years after the left nephrectomy. He underwent triple regimen chemotherapy (Vinblastin, interferon-α, 5-FU) over a 6-month period and immunotherapy with interlukin-2 was administered after a right renal mass was found on abdominal pelvic CT. Following immunotherapy, the patient underwent right partial nephrectomy in 1998. Upon admission to our hospital, neither the physical examination nor the laboratory findings showed any pathological evidence with the exception of a moderate increase in γ-glutamyltransferase. Carcinoembryonic antigen (CEA) level was 0.1 ng/ml. Abdominal ultrasound showed a solid polypoid mass in the gallbladder, and gallbladder stones could be excluded. The liver was free of metastasis. A repeated imaging study was performed in February 1999, and no evidence of newly recurred local or metastatic disease was identified with the exception of a GB polyp (Fig. 2). In April 1999, the patient underwent a typical cholecystectomy without difficulty, and no further signs of metastasis could be found intraoperatively. The histology confirmed a metastasis of the RCC within the GB wall (Fig. 3). The tumor was confined to the mucosa of the gallbladder. Our

hospital plan was to administer chemotherapy using inetrrukin-2 for the better performance of the patient.

DISCUSSION

Renal cell carcinoma (RCC) accounts for approximately 3% of adult malignancies and is the third most common type of urologic tumor after cancers of the prostate and bladder, respectively, and accounts for approximately 85% of all primary kidney neoplasms. Its peak incidence occurs in the sixth and seventh decades of life, with the mean age at presentation is 57 years old.

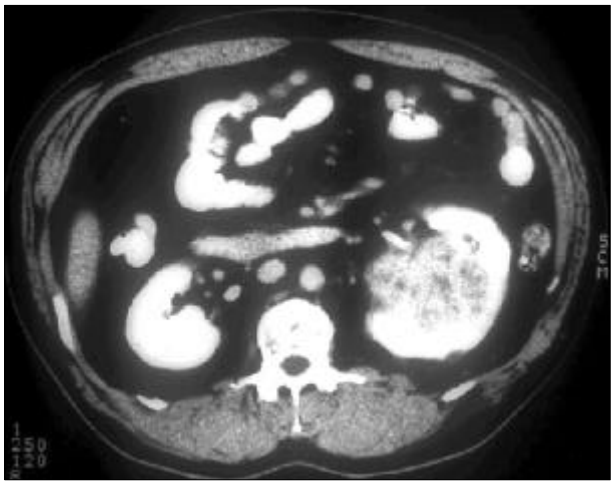

Fig. 1. Abdominal CT showing a solid mass occupying the entire left Kidney.

Renal cell carcinoma has a complex and variable natural history. In a large series of autopsies, 523 patients with hypernephroma, Bennington and Kradjian[8] found metastases to the brain, heart or spleen in about 5% of patients, but only 3 cases (0.6%) turned out to have gallbladder metastasis. Most of metastasis to the gallbladder originated from a malignant melanoma. The majority of gallbladder melanoma was described to be situated on the serosal surface, although there were a few cases where the lesion was present in the gallbladder lumen, involving the mucosa or submucosa. In another autopsy series, Gottesman et al.[9] reported a necropsy finding of a metastatic RCC in the mucosa of the gallbladder following nephrectomy. Patients with gallbladder metastasis may present with abdominal pain which can mimic acute or chronic cholecystitis. According to Bennington' report, a 27 year old patient who underwent nephrectomy due to RCC, presented with severe anemia due to bleeding from metastatic RCC to the gallbladder and the pancreas.[8]

In pathological, it was very difficult to differentiate the primary clear cell carcinoma or clear cell carcinoid tumor of gallbladder from the metastatic gallbladder cancer of renal cell carcinoma because of the histologic similarities. The gallbladder clear cell carcinoid tumor shows reacti-

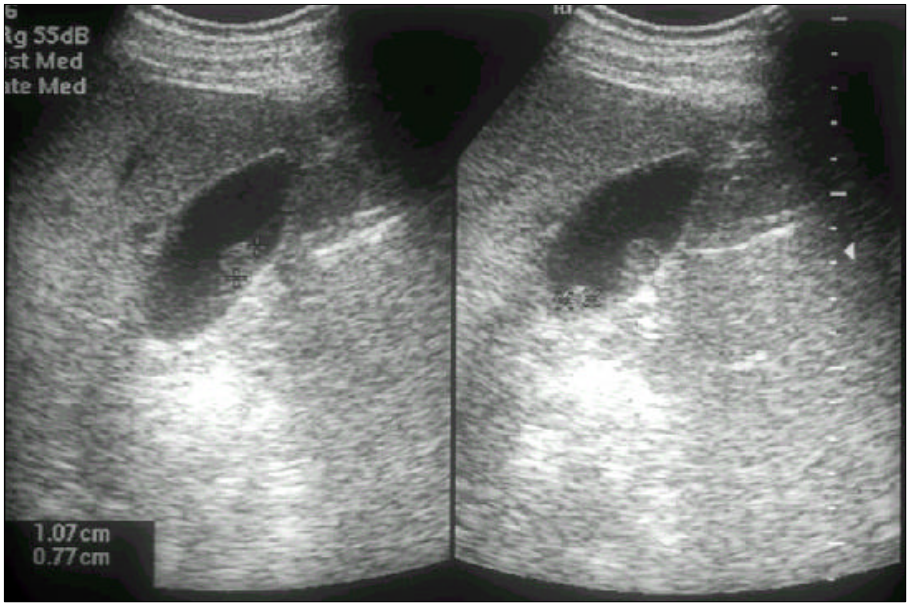

Fig. 2. Abdominal ultrasound showing a solid polypoid mass in the gallbladder.

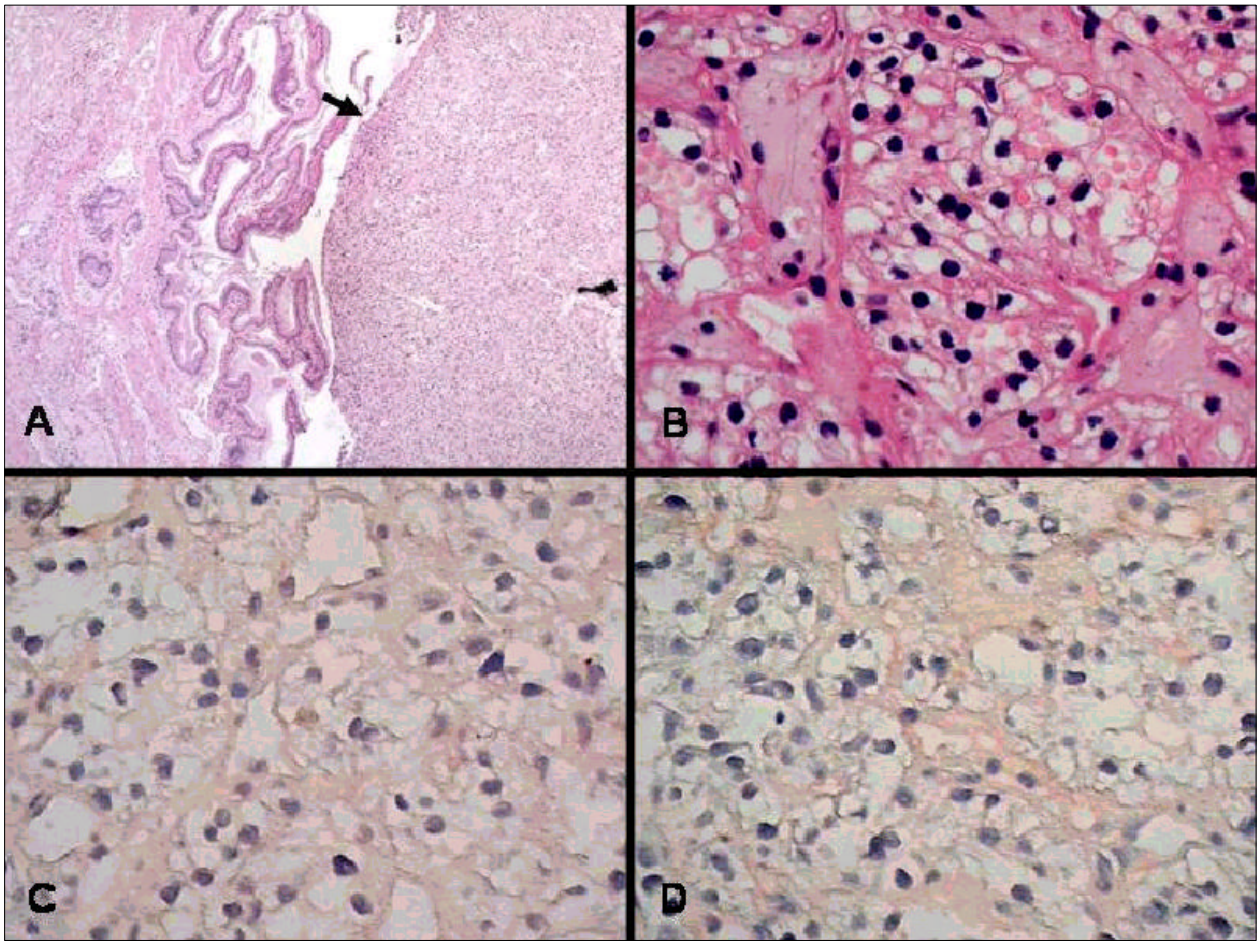

Fig. 3. (A) At low power view of the gall bladder, an intraluminal polypoid mass (arrow) (× 100). (B) Higher magnification showing tumor cells with clear, abundant cytoplasm consistent with metastatic renal cell carcinoma (× 400). (C), (D) Metastatic renal cell carcinoma of the gallbladder shows no synaptophysin and chromogranin A immunoreactivities.

vity for chromogranin A and Synaptophysin immunohistochemical stains. But there was no reactivities in our case.[10]

Most patients with localized tumors can be cured by surgical resection, and the numbers of incidentally discovered low stage tumors that are amenable to partial or total nephrectomy appear to be increasing.[11]

Recently IFN and other cytotoxic agents appear to exhibit synergistic tumor killing properties.[12] Fossa and associates[13] have used recombinant IFN-α and vinblastin in advanced RCC and reported a response rate of 25%. In our case, the triple regimen chemotherapy showed poor response following nephrectomy due to RCC.

The ability of RCC to mimic other diseases is well known and can often mislead the clinician. In our case, the diagnostic evaluation showed a polypoid mass in the gallbladder which was treated by cholecystectomy. Metastatic RCC to the gallbladder is unusual and the majority of such patients are asymptomatic. Nevertheless, the possibility of metastatic renal cell carcinoma should be excluded in patients with a known history of RCC who present with bleeding or a mass lesion in the gallbladder.

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