Case Report

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Gallbladder Metastasis of Renal Cell Carcinoma

A Case Report and Review of the Literature

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Key Words

Renal cell carcinoma
Metastasis
Gall bladder

Abstract

Although renal cell carcinoma is known to metastasize mainly to lungs, lymph nodes, bone, liver, brain or adrenal glands, unusual metastatic spread has been published in many case reports and autoptical studies. The gallbladder is rarely the site of distant metastases, and in most cases of gallbladder metastasis malignant melanoma is the primary tumor. A review of the literature revealed only 7 cases of renal cell carcinoma metastasizing to the gallbladder, and these were mainly found at necropsy. The case of a clinically detected gallbladder metastasis is presented.

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Renal cell carcinoma (RCC) presents as a metastatic disease in approximately 25% of patients. One of the most notable features of the tumor is its unusual and even bizarre pattern of metastatic disease.

Although RCC is known to metastasize mainly to lungs, lymph nodes, bone, liver, brain or ipsilateral and contralateral adrenal glands [1], unusual metastatic sites as the epidermis, urinary bladder and corpus cavernosum have been published in several case reports and autoptical studies [2]. The gallbladder is rarely the site of distant metastasis, and in most cases a malignant melanoma was identified as primary tumor [1]. A review of the literature revealed only 4 case reports of gallbladder metastases of RCC, of which 2 were found at autopsy. We report a case of RCC presenting with gallbladder metastasis about 4 years after initial nephrectomy for carcinoma.

Case Report

A 46-year-old man was hospitalized because of repeated pain attacks in the right upper abdomen. History revealed a left nephrectomy 3 years and 8 months ago because of RCC, stage pT2 pN0 Mo and a wedge resection of the right upper pulmonary lobe because of a solitary metastasis of the hypernephroma 2 years later.

On admission to our hospital, the physical examination as well as the laboratory findings did not show any pathological findings except for a discrete pain on palpation of the upper abdomen, a positive fecal occult blood test and a moderate increase in γ -glutamyltrans-ferase.

Abdominal ultrasound showed a solid polypoid mass in the gallbladder, a cholecystolithiasis could be excluded (fig. 1). The liver was free of metastasis. The abdominal CT confirmed these

Histology confirmed a metastasis of the RCC within the gallbladder wall. The tumor had infiltrated the muscular wall but had mainly grown into the cavity of the gallbladder. Postoperative recovery was uneventful.

Twelve months later routine chest X-ray again showed pulmonary metastasis which was again surgically resected. Only 4 months later abdominal CT suspected a small-sized contralateral kidney metastasis, which was confirmed by angiography. Also a metastasis of the right adrenal gland was documented. At that point, a treatment regimen with biological response modifiers was started. Two years later the patient was admitted because of severe frontal headache and a metastasis of the RCC to the ethmoid bone was found, which was excised. The patient died 8 years after the first diagnosis of RCC in a state of generalized metastatic disease.

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Fig. 1. Abdominal ultrasound showing a solid polypoid mass (27×21 mm) in the gallbladder.

Discussion

In a report on metastatic melanoma, an incidence of 15% of metastasis to the gallbladder was documented in patients dying of melanoma [3]. The majority of metastatic lesions were serosal implants, however, in 7 cases metastasis was observed in the mucosa of the gallbladder. Only 2 of these patients had polypoid lesions in the fundus of the gallbladder [3]. In a retrospective study, all of

22 metastatic tumors of the gallbladder studied were found incidentally at laparotomy [4]. The lesions were mainly located on the serous surface and were peritoneal implantations, in 16 cases the primary tumor was of gastrointestinal origin. Only 1 of these patients had metastatic hypernephroma, and this was the only tumor growing in a polypoid form [4].

In 1932, Gottesman et al. [5] reported the necropsy finding of a metastatic RCC in the mucosa of the gallbladder 7 years after nephrectomy. The 3rd case was published 1947 in a survey of 195 cases of hypernephroma, and was also found at necropsy [6].

Others described a patient presenting with severe anemia caused by bleeding from the gallbladder and pancreatic metastasis of RCC 27 years following initial nephrectomy [7]. In a large autopsical series of 523 patients with hypernephroma, Bennington and Kradjian [8] found metastases to the brain, heart or spleen in about 5%, but gallbladder metastasis in only 3 cases (0.6%).

The ability of RCC to mimic other diseases is well known and often can mislead the clinician. In our case, the diagnostic evaluation showed a polypoid mass in the gallbladder which was treated by cholecystectomy.

This rare case of gallbladder metastasis of an RCC indicates once more that in the treatment and follow-up of a patient with hypernephroma the physician must be aware of unusual manifestations of metastatic disease, which can develop a long time after the initial treatment.

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258

U. UrolInt 1997;58:257–258

Sparwasser/Krupiński/Radomsky/Pust