ABSTRACT

Testicular metastasis of renal cell carcinoma (RCC) is a very rare condition in the literature. In this case report, a 56-year-old man with RCC in the right kidney and metastasis of RCC to the left testicle detected 12 months after nephrectomy was assessed and discussed in the context of literature information.

Keywords: Metastasis, renal cell carcinoma, testis

Introduction

Renal cell carcinoma (RCC), which accounts for approximately 3% of tumors observed during adulthood, is the most mortal urological malignancy [1]. The lungs, bones, liver, and brain are the most metastatic organs of RCC [2]. However, the pathways of RCC metastasis have not been fully resolved and its metastases rarely manifest at different locations. According to current literature, testicular metastasis of RCC is a very rare condition. The case of a 56-year-old male patient who underwent right radical nephrectomy with localized renal tumor and RCC metastasis to the contralateral testis 12 months after the operation was discussed in this case report.

Case Presentation

A 56-year-old man was admitted to our urology clinic with complaints of hematuria and right flank pain that was ongoing for 20 days. The patient had a 30 pack-year history of smoking. He had no history of previous surgery or chronic illness. Urinary ultrasonography revealed a solid mass with a diameter of 6.7 cm in the right kidney. Magnetic resonance imaging of the abdomen revealed a 7-cm mass in the lower pole of the right kidney (Figure 1). No evidence of metastatic disease was observed. In February 2017, the patient underwent right radical nephrectomy. No complications occurred intraoperatively and postoperatively, and the patient was discharged on the 3rd postoperative day. The gross pathological examination revealed an expansile tumor growth in the medulla near the inferior pole of the kidney. The tumor was 8×6×5 cm in size with distinct sharp borders and was classified as stage 2. After the histopathological examination, the tumor was diagnosed as “renal cell carcinoma, Fuhrman grade 2, clear cell variant, with no microvascular invasion and necrosis and invasion of the collecting system” (Figures 2 and 3). The patient was evaluated at postoperative 1st and 6th months. No pathological findings were found in chest X-ray and in abdominal ultrasound imaging at the 6-month follow-up. In February 2018, the patient presented with a left testicular pain that was ongoing for 3 days. A genitourinary system examination revealed a hard mass approximately 2 cm in size that was palpated deep in the left testis. Alpha fetoprotein (AFP), beta subunit of human chorionic gonadotropin (β-hCG), and lactate dehydrogenase (LDH) levels were within normal limits. Scrotal ultrasonography revealed a 2-cm sized mass in the lower part of the left testis. The patient underwent left high inguinal orchiectomy. Pathological examination of the testis revealed that the tumor detected in the testis was basically composed of malignant cells similar with those detected in the kidney. The tumor in the testis was diagnosed as “consistent with clear cell variant renal cell carcinoma metastasis” (Figures 4 and 5). The patient’s postoperative contrast-enhanced computer tomography of the abdomen and thorax revealed no other metastasis. He was referred to the oncology clinic, and treatment with sunitinib was initiated at a dose of 50 mg/day for 4 weeks followed by 2 weeks without sunitinib treatment (4/2 schedule). After 5 months of sunitinib treatment, he exhibited no evidence of disease progression.
In conclusion, although testicular metastasis is rarely seen in patients undergoing radical nephrectomy due to renal tumors, we suggest that clinicians should be careful in terms of testicular metastases during clinical follow-up.

Informed Consent: Written informed consent was obtained from patient who participated in this study.

Peer-review: Externally peer-reviewed.

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