CASE REPORT/OLGU SUNUMU

Splenic Recurrence of Renal Cell Carcinoma After Nephrectomy: A Case Report

Renal Hücreli Karsinomun Splenik Metastazı Olgu Sunumu

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Geliş Tarihi/Received: 30.11.2024 Kabul Tarihi/Accepted:03.12.2024
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Hippocrates Medical Journal / Hippocrates Med J, 2024, 4(3):143-146 DOI: 10.58961/hmj.1593811

Abstract

The incidence of Renal Cell Carcinoma (RCC) is increasing progressively and the most common metastasis of RCC is the renal lobe. Spleen metastasis is very rare and early surgery provides a good prognosis. In this case we evaluated 74-year-old patient who had an unusual metastasis after RCC surgery and recurren operation.

Keywords Renal cell carcinoma, Spleen, Metastasis

Özet

Renal Hücreli Karsinom (RCC) günden güne insidansı artmakta ve en sık metastazını renal oba yapmaktadır. Dalak metastazı çok nadir görülse de, erken cerrahi girişim iyi prognozla ilişkilidir. Bu olgu sunumunda 74 yaşında erkek hastanın RCC operasyonu sonrasında görülen dalak rekürrensi ve operasyonundan bahsedilmiştir.

Anahtar Kelimeler Renal Hücreli Karsinom, Dalak, Metastaz

INTRODUCTION

The incidence of kidney cancer has been increasing at a rate of 2-3% per year since the early 1990s, and most are discovered incidentally due to the increased use of computed tomography (CT) scans. Renal cell cancer accounts for the majority of kidney tumors. RCC include adenocarcinomas of the renal tubular epithelium, but also clear cell (accounting for 70-80% of all RCC), papillary (10-15%), chromophobe and collecting duct carcinoma (6% or less, collectively) (1).Surgery (radical or partial nephrectomy) remains the mainstay of RCC treatment. An mTor inhibitor is used as adjuvant therapy.

Unfortunately, local or distant metastatic disease recurs in approximately one-third of patients who undergo surgical resection for localized disease. Therefore, active follow-up with regular CT scanning within the first five years after resection is recommended. In this case report, we present a patient who underwent total nephrectomy for RCC in 2019 and developed splenic metastasis on follow-up CT scan in the 4th year. To the best of our knowledge, splenic metastasis of RCC is a rare condition and has an significant relevance in the literature due to the small number of publications.

Permission

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review.

CASE PRESENTATION

In this case, a 74-year-old white patient was operated for left RCC in 2019, the pathology was interpreted as Fuhrman Gr2 and completed sunatinib treatment. In his 3-month routine controls, while there were no pathological findings during CT scans, a newly developing 5cm diameter mass lesion in the spleen, which was not present before, was noticed in the non-opaque tomography in February of the 4th year. The patient, who was followed up more closely for potential metastasis and did not have any clinical complaints, was decided to undergo surgery 2 months later when he mentioned a 72x60mm metastatic lesion in the spleen on opaque CT (Fig.1 and Fig. 2). Laparoscopic splenectomy is performed successfully. No other pathology was found when intra-abdominal organs were evaluated.

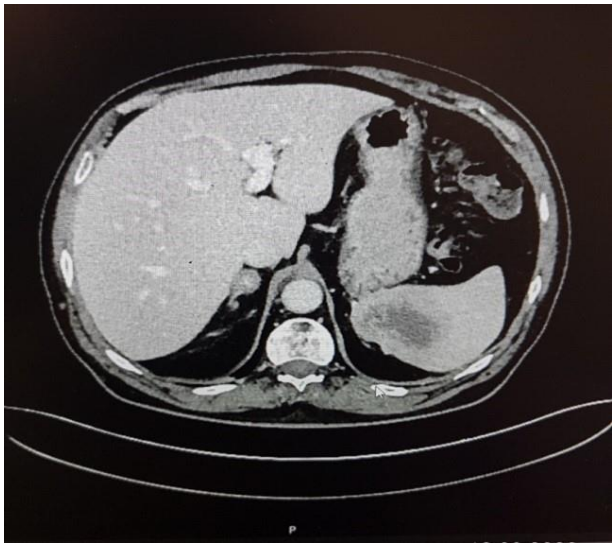

Figure 1. Transverse-plane computer tomography images revealing splenic metastasis originating from renal cell carcinoma

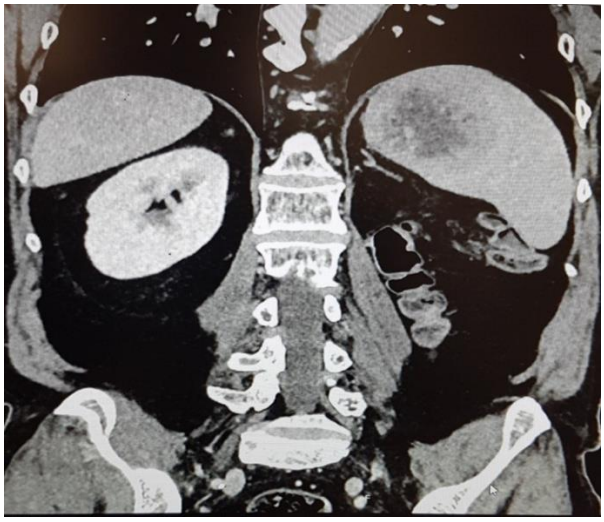

Figure 2. Coronal plane computer tomography images revealing splenic metastasis originating from renal cell carcinoma.

The patient was discharged from the clinic on the 2nd postoperative day without any problems and spleen vaccines were prescribed.

Splenic pathology was concluded as malignant epithelial tumor metastasis (Fig. 3). Preoperative blood test results are displayed in Table 1.

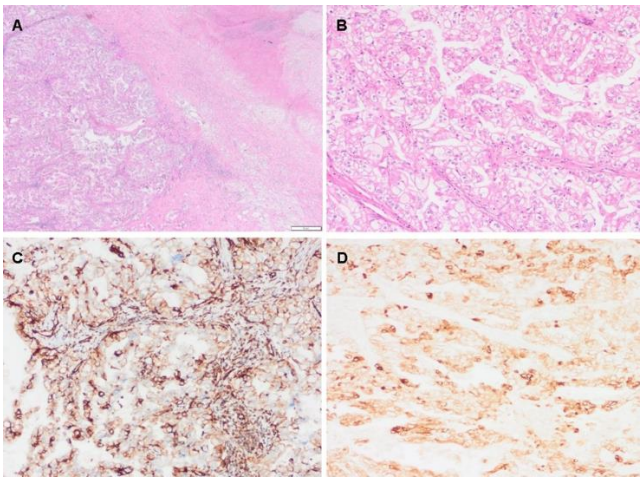

Figure 3. Microscopic evaluation of the pathological specimens including magnified images captured at varying levels: (A) 10x magnification, (B) 100x magnification with hematoxylin and eosin (H&E) staining, (C) 100x magnification with amacr staining, and (D) 100x magnification with cd10 staining.

Table 1. Preoperative blood test results.

Hg(g/dl)	11.9
White blood cell	10180
Platelets	308.000
Creatine (mg/dl)	1.23
Gfr (mL/dk/1.73m2)	61
Ca(mmol/L)	1.11
Albumin (g/L)	45.9

DISCUSSION

The spleen is usually involved in hematologic malignancies and solid organ metastasis is very rare. The reported incidence of metastatic tumors in the spleen varies between 0.3% and 7.3% (2). Rhythmic contractions of the splenic sinusoids and its physiological effects of phagocytosis and immunological antineoplastic effect may be factors preventing tumor seeding in the spleen. The sharp angle of the splenic artery with the celiac axis may also prevent large tumor emboli from entering the artery (2,3).

Primary tumors reported to metastasize to the spleen include breast, lung and malignant melanoma (2). Although the incidence of metastatic spread from renal cell carcinoma was reported to be 4.6% in an autopsy series(4), there are only a few case reports of isolated splenic metastasis in RCC in clinical settings. Detection of splenic metastasis is clinically important for disease staging and treatment planning, and high tumor burden can lead to sudden death due to splenic rupture(2,5).

In the majority of cases, splenic metastases are detected simultaneously or shortly after the primary tumor during follow-up imaging studies(2,5). Patients usually do not manifest symptoms when metastasis. In the present case, the splenic capsule was intact, suggesting a metastatic lesion that occurred during follow-up.

Approximately 25 to 30% of patients with RCC have metastases at initial presentation and almost 50% of patients with low-stage disease develop metastases after nephrectomy. The most common sites of metastasis are the lungs and bone, followed by the liver (6,7). The site of metastasis and disease volume affect prognosis (6). Single site metastasis is associated with a better prognosis and the best treatment for an isolated lesion is surgery. In the presence of metastasis, surgery can be performed with open or closed procedures depending on the location of the lesion. Follow-up is performed with ultrasonography, CT and PET (3).

It's important to remember that the exact mechanisms of metastasis can be complex and multifactorial, and each case may have unique contributing factors. Further research and clinical studies are needed to better understand the specific factors that lead to splenic metastasis in renal cell carcinoma.

Financial Disclosures:Nothing to disclose

Grant support:None

Conflict of Interest:None

Authors' contributions: Study conception and design was contributed by KÖ,MÖ and MY. Data acquisition was done by KÖ and MÖ. Data analysis and interpretation was carried out by KÖ and MÖ. Manuscript drafting, revising, and final approval was carried out by all the authors.

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