

Colonic Metastasis of Renal Cell Carcinoma Two Years After Therapeutic Radical Nephrectomy a Case Report

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Abstract

Background: Renal Cell carcinoma usually presents metastasis at the diagnosis and the most common sites include lung, bones, liver, and brain in decreasing order. Metastasis to the large intestine is very uncommon and few cases are reported in the literature.

Case Presentation: We present a case of post nephrectomy renal cell carcinoma who presented to our institution with signs of anemia and on further investigations found to be having metastatic lesions of renal cell carcinoma in the intestine, peritoneum, and abdominal wall.

Conclusion: We hypothesize that due to recent advances in the treatment of renal cell carcinoma, the patient's survival rate increased and this leads to atypical presentations of the known diseases. Through this case report, we stress the importance of vigilant evaluation for intestinal metastasis when the patient presents with gastrointestinal bleeding and a history of renal cell carcinoma regardless of the time since nephrectomy.

Background

Renal cell carcinomas (RCC) make for 1%-3% of all malignant visceral neoplasms and 90% of all renal malignancies [1]. At the time of diagnosis, around 25–30% of patients with RCC had metastatic illness [2]. The lung (50–60 % of patients with metastatic illness), bones (30–40 %), liver (30–40 %), and brain (30–40%) are the most prevalent locations of RCC metastases. Although RCC metastasis to the large intestine is regarded to be extremely uncommon, there are a few reported cases in the literature [3]. Patients with RCC frequently appear with ambiguous abdominal symptoms; only 4–17% of patients have the classic triad of hematuria, loin pain, and abdominal mass [4]. As a result, 25–30% of patients are found to have metastases at the time of diagnosis. During their illness, 30–50% of patients with the local disease will acquire metastases [5]. A similar case of Intestinal metastasis with RCC presented to our hospital.

Case Presentation

A 62-year-old man began experiencing lower back pain at the age of 58, which did not improve with acetaminophen. An MRI of the abdomen at the time revealed a left renal mass (4.9X 3.9 X 5.5 cm) arising from the midportion of the kidney, with no evidence of adenopathy. The left renal tumor was removed using robotic-assisted radical nephrectomy, and pathology revealed a 4 cm, grade 2, T1aNX MX, stage I Clear-cell renal cell carcinoma, confined to the kidney, with negative surgical margins. Following that, the patient received radiation therapy. 2 years later the patient was found to have anemia with a hemoglobin level of 8 g/dL and was positive for blood in the stool. A colonoscopy at that time revealed tubular adenoma with poorly differentiated carcinoma in the splenic flexure. Biopsies revealed tubular adenoma in the ascending colon and poorly differentiated carcinoma, ulcerated lesion in the splenic flexure, and immunoprofile consistent with metastatic renal cell carcinoma, positive for PAX 8, negative for CK 20,

CDX 2, and CK 7. The patient underwent laparoscopic ileosigmoid colonic bypass, peritoneal mass excision x 1, sigmoid colon serosal mass excision x 1, and abdominal wall soft tissue mass excision. The patient completed his chemotherapy and immunotherapy and followed up on outpatient basis.

Discussion

Renal cell carcinoma (RCC) is a diverse collection of malignancies that arise from renal tubular epithelial cells and is one of the top 10 malignancies in the world [6]. RCC incidence rises sharply with age, and males have a greater rate than women. In the United States, rates vary by ethnic group, with Native Americans and African Americans having the highest rates, and Asian Americans having the lowest [7]. Excess body weight, hypertension, and cigarette smoking are all known risk factors for RCC [6], and they were found to be factors in around half of all identified cases in one US investigation.

Patients with RCC experience a wide range of symptoms, while many stay asymptomatic until the disease has progressed [8]. The typical triad of flank discomfort, hematuria, and flank mass is rare (10% of cases) and usually indicates severe illness. Despite the fact that new imaging measures have made the diagnosis of renal tumors more prevalent, patients still arrive with systemic illness and a variety of symptoms, the most prevalent of which is haematuria and/or groin pain. Approximately 25% of patients had distant metastases or severe local-regional illness at the time of presentation. Other patients, even those with merely localized illness, have a wide range of symptoms and/or aberrant test results. Because of this, it is also called "Internist's tumor" [8]. The abundance of blood supply in the kidneys raises the likelihood of RCC metastases [9]. The most common metastasis is to the lung, lymph nodes, liver, bones, and brain. Although colonic metastasis in RCC is uncommon, cancer can spread throughout the gastrointestinal system, and there is no one lymphatic or hematogenous route that may adequately explain colonic metastasis. Colonic metastasis can occur in a variety of locations, although the sigmoid, splenic flexure, transverse colon, and hepatic flexure are the most prevalent [10].

Distinguishing primary vesicular cancers from metastatic lesions using CT scan is challenging, necessitating biopsy and immunohistochemistry for diagnostic confirmation [11]. Higher carcinoembryonic antigen (CEA) and cytokeratin 7 (CK7) levels, slightly increased CK10 levels, have been identified in primary tumors. Increased vimentin are detected in instances with RCC metastases, with negative CL7 findings [15]. Thumb-printing on an abdominal radiograph and segmental wall thickening on a CT scan are two signs of malignancy-related inflammation and edema, neither of which was seen in this patient. Intestinal metastases are typically detected as a result of a specific clinical manifestation, such as nausea, stomach discomfort, bleeding, melaena, or blockage [13].

Because of the higher metastasis rate, management of the RCC requires a multidisciplinary approach. Both the National Comprehensive Cancer Network and American Urology Association suggest routine postoperative surveillance for the first 5 years [9]. The prognosis of patients with metastatic RCC has improved in recent years, thanks to the introduction of targeted treatments [13]. However, surgical

excisions of isolated metastases continue to play a role in the treatment of metastatic RCC in the absence of remarkable outcomes [14].

Conclusions

Overt hematemesis or indications of occult blood loss may accompany gastrointestinal bleeding caused by intestinal metastases. Small intestinal metastasis is sometimes overlooked as a cause of gastrointestinal bleeding due to its rarity. By this case report, we hope to alert clinicians to the possibility of intestinal metastasis, as a cause for gastrointestinal bleeding in patients with a history of RCC, regardless of the time since nephrectomy.

Abbreviations

RCC; Renal cell carcinoma, CEA; carcinoembryonic antigen, CK; cytokeratin, CL7; Claudin 7

Declarations

Ethics approval and consent to participate:

Not applicable.

Consent for publication:

Written consent to publish this information was obtained from study participants.

Availability of data and material:

Not applicable.

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Dina Alnabwani, Frederick Acquah, Anish Kumar Kanukuntla , Priyaranjan Kata, and Pramil Cheriyaath, all the above listed authors have contributed in the patient care and management, manuscript conceptualization, editing, and review for submission. Anish Kumar Kanukuntla and Priyaranjan Kata are

main contributors for literature review and gathering related to this case. All authors have read and approved the manuscript.

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