Isolated back pain as an initial presentation of diffusely metastatic renal cell carcinoma

Iloabueke Chineke, Suaka Kagbo-Kue, Obiora Egbuche, Sanjay Jain

ABSTRACT

Introduction: Renal cell carcinoma classically presents with the triad of flank pain, hematuria, and a palpable abdominal mass. Non-specific back pain has rarely been reported as the initial presenting symptom. Most patients who present with back pain do not require additional imaging or testing, however suspicion of serious underlying pathology, such as malignancy, may be an important reason to obtain further workup for back pain. Case Report: A 40-year-old male with no significant past medical history presented with generalized back pain and was discovered to have a highly elevated alkaline phosphatase. Computed tomography scan of the abdomen and pelvis showed an upper pole right renal mass with diffuse heterogeneous areas of both lytic and sclerotic lesions in the bones. A core biopsy from the iliac crest revealed metastatic renal cell cancer and positron emission tomography scan was significant for extensive metastasis. The patient was placed on palliative treatment with sunitinib and radiotherapy. Conclusion: Renal cell carcinoma is uncommon in people less than 50 years and isolated non-specific back pain as an initial presentation of diffusely metastatic renal cell carcinoma with both lytic and sclerotic osseous lesions to the best of our knowledge is a rare phenomenon.

Keywords: Backpain, Carcinoma, Metastatic, Mixed osseous metastases, Renal

INTRODUCTION

Renal cell carcinoma (RCC) accounts for 3% of all malignancies in adults and roughly 90% of all malignant renal neoplasms and has a peak incidence in the sixth and seventh decades [1]. The classic presentation of RCC includes the triad of flank pain, hematuria, and a palpable abdominal mass, however, only a few patients now present in this manner [1]. Almost half of all cases are currently detected as an incidental renal mass on radiographic examination. About 30%-50% of patients are found to have metastases at the time of diagnosis [2]. The skeleton is a common site of metastasis from RCC but almost always produces lytic lesions with very few reported cases of sclerotic metastases [3]. Back pain is a very common complaint, and rarely, maybe the first manifestation of cancer [4]. In clinical guidelines, some of the red flags that should elicit suspicion for malignancy in patients with back pain includes age >50 years, no improvement after 1 month, a previous history of cancer and no relief with bed rest [5]. Herein, a rare case of a
A 40-year-old Hispanic male presented to the emergency department with complaints of back pain for 3 weeks. He described the pain as aching and circumferential involving the sternum, right ribs, shoulders, and back. His previous medical history was unremarkable and he never had any prior imaging studies. Plain radiographs of the spine did not show any osseous abnormalities. Because of the patient’s highly elevated alkaline phosphatase (1,051 IU/L), a computed tomography (CT) scan of the chest, abdomen, and pelvis was performed (Figure 1). This revealed an enhancing right upper pole renal mass suspicious for renal cell carcinoma with nodal, left adrenal and extensive bony metastasis. In the chest, there were extensive lytic and sclerotic bone metastases. Interventional Radiology performed a CT guided core biopsy of one of the metastatic lesions in the left iliac crest; cytology reported metastatic malignant cells with immunohistochemical findings positive for Ae1/Ae3 and PAX8. This was highly suggestive of metastatic renal cell carcinoma, however, the specific histological subtype (clear cell vs non-clear cell) was not identified due to an insufficient tissue sample from the earlier core biopsy. A subsequent positron emission tomography (PET) scan revealed extensive metastases with multiple soft tissue implants, retroperitoneal lymph nodes and extensive osseous involvement (Figure 2). The patient was scheduled for a repeat core biopsy (retroperitoneal) for a more specific histological diagnosis (clear cell vs non-clear cell) on the demand of the treating oncologist and commenced on treatment with Sunitinib in the interim. This is in accordance with the National Comprehensive Cancer Network (NCCN) guidelines, which recommends sunitinib as the first-line (category 1) therapy for both clear cell and non-clear cell stage IV renal cell carcinoma. He was also prescribed opioid analgesics, anti-emetics and laxatives. The treating oncologist planned to switch the patient over to immunotherapy with nivolumab or ipilimumab if the repeat core biopsy revealed that he had the clear cell histological subtype. Unfortunately, the patient’s health progressively deteriorated, he was unable to attend hospital appointments and finally passed away about 2 months from his initial presentation.

DISCUSSION

The skeleton is the most common organ to be affected by metastatic cancer; bone metastases from carcinomas of the breast, lung, prostate, kidney, and thyroid are most frequent [6]. Although RCC commonly metastasizes to the spine, malignancy in itself is rare in patients that
present with back pain, having a prevalence of just about 1\% in this patient population [7]. The index of suspicion is even lower in patients younger than 50 years with back pain less than 4 weeks in duration, and who do not have a previous history of cancer as in our patient which makes this case unique. Although many advocate the selective use of laboratory and imaging studies for back pain patients, the early detection of cancer may be an important reason to obtain such tests [4]. As the world’s population ages and the prevalence of risk factors (obesity, hypertension) increases, the burden of metastatic RCC (mRCC) is predicted to increase significantly [8]. Metastatic RCC is one of the most treatment-resistant malignancies, outcomes are generally poor and median survival after diagnosis is less than one year [8]. Treatment is usually determined by the histological subtype (clear cell vs non-clear cell) and is currently based on the use of vascular endothelial growth factor inhibitors (such as Sunitinib) and immunotherapy (Nivolumab, Ipilimumab); however, response rates remain low and there is a great need for new therapeutic agents [1].

CONCLUSION

We described a rare case of diffusely metastatic renal cell carcinoma in a 40-year-old Hispanic male initially presenting as isolated back pain with mixed (lytic and sclerotic) osseous metastases. Even among younger patients who present with back pain but do not have the traditional red flags to suspect malignancy, it is crucial that providers conduct a thorough history and physical examination and use clinical judgment to identify patients with severe underlying conditions.

REFERENCES


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Author Contributions

Iloabueke Chineke – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Suaka Kagbo-Kue – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Obiora Egbuche – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

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Consent Statement

Written informed consent was obtained from the patient for publication of this case report.

Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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