

Clinical Images

Ruptured Bony Metastasis in Renal Cell Carcinoma



Chad Gier, MD¹ and Christopher Sankey, MD²

¹Renaissance School of Medicine, Stony Brook University, Stony Brook, USA; ²Section of General Internal Medicine, Department of Medicine, Yale School of Medicine - Yale New Haven Health System, New Haven, USA.

J Gen Intern Med 37(6):1547–8

DOI: 10.1007/s11606-021-07366-4

© The Author(s), under exclusive licence to Society of General Internal Medicine 2022

A 31-year-old man with renal cell carcinoma (RCC) presented with symptoms from worsening metastatic disease. During his hospitalization, he acutely developed severe abdominal pain, hypotension, and tachycardia. On examination, abdominal tenderness and guarding, as well as right flank tenderness, were noted. His hemoglobin acutely decreased from 9.5 to 6.2 g/dL (reference range 12 to 18). CT angiogram revealed a ruptured bony metastasis in the right iliac crest (Fig. 1, arrow) and a large right-sided retroperitoneal hematoma (Fig. 1, asterisk)



Figure 1. CT abdomen (coronal plane), demonstrating a ruptured bony metastasis in the right iliac crest (arrow) and a large right-sided retroperitoneal hematoma (asterisk).

(Fig. 1, asterisk), with active extravasation of contrast (Fig. 2, arrow).

Bleeding is experienced by an estimated 10% of patients with advanced cancer and can result from tumor growth, invasion, abnormal tumor vasculature, or tumor regression (1). Spinal metastases complicate 20–35% of RCC cases, with the lumbar spine and pelvis as the most common sites (2, 3). Metastatic lesions in RCC are hypervascular, as are primary lesions (4). Bony metastases in RCC are associated with skeletal-related events (SREs) (2, 3) including pain, pathological fractures, nerve and spinal cord compressions, hypercalcemia, and in this case, life-threatening hemorrhage. Emergent arterial embolization was performed in addition to provision of intravenous fluids and multiple red cell transfusions. Though the hemorrhage was stabilized, the patient succumbed to his disease during hospitalization.

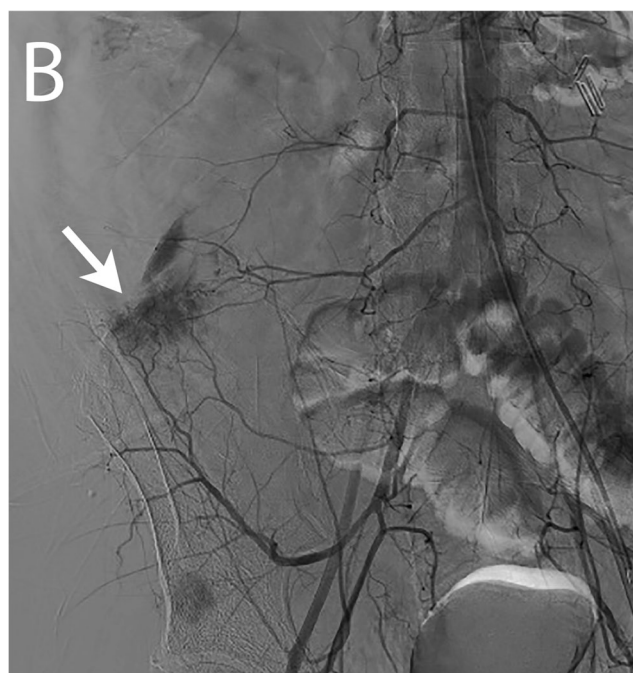


Figure 2. Angiography, with active extravasation of contrast from the metastatic lesion (arrow).

Received July 28, 2021

Accepted December 16, 2021

Published online January 31, 2022

Corresponding Author: Christopher Sankey, MD; Section of General Internal Medicine, Department of Medicine, Yale School of Medicine - Yale New Haven Health System, New Haven, USA (e-mail: christopher.sankey@yale.edu).

Declarations:

Conflict of Interest: The authors declare that they do not have a conflict of interest.

2. Umer M, Mohib Y, Atif M, Nazim M. Skeletal metastasis in renal cell carcinoma: A review. *Ann Med Surg (Lond)*. 2018;27:9-16.
3. Jang A, Xie J, Bilal M, Barata, PC. Skeletal-Related Events in Patients with Metastatic Renal Cell Carcinoma: A Systematic Review. *Kidney Cancer*. 2020;4(2):93-102.
4. Chatziioannou AN, Johnson ME, Pneumaticos SG, Lawrence DD, Carrasco CH. Preoperative embolization of bone metastases from renal cell carcinoma. *Eur Radiol*. 2000;10(4):593-6.

Publisher's Note: Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

REFERENCES

1. Johnstone C and Rich SE. Bleeding in cancer patients and its treatment: a review. *Ann Palliat Med*. 2018;7(2):265-273.