

# Renal Cell Carcinoma of the Small Bowel: An Unusual Site for Metastasis

Paula A. Cacioppo MD, Samuel Righi MD, Ricardo Vallejo-Calzada MD

Ochsner Clinic Foundation: Department of Internal Medicine and Department of Gastroenterology



## INTRODUCTION

Renal cell carcinoma (RCC) is a malignancy that accounts for 80,000 new cases and approximately 14,000 deaths yearly in the United States alone. Although it has several subtypes, the most prevalent is clear cell carcinoma. Most people are asymptomatic until the disease has become advanced, in which they can present with various symptoms of hematuria, weight loss, abdominal pain, or mass. Renal cell carcinoma often stays localized to the kidney, but metastatic disease does occur. The most common sites of metastases are the lungs, bone, lymph nodes, liver, and adrenal glands. While there are other less common sites, the small bowel remains extraordinarily infrequent.

## CASE DESCRIPTION

An 81-year-old male with a past medical history of HTN, CAD and metastatic undifferentiated carcinoma of unknown primary who presented with a one-month history of symptomatic anemia and melena. Prior to hospital presentation, he was evaluated by his primary care doctor for evaluation of a 40-lb weight loss over the last year and a newly noted lump on his chest.

His laboratory work-up at that time was significant for iron-deficiency anemia with a hemoglobin of (8.6) from his baseline (15). He underwent a mammogram, which showed multiple masses within both breasts. An ultrasound guided right breast biopsy was performed, which revealed a poorly differentiated malignancy not of breast origin but gave little insight into his underlying diagnosis.

Additional work-up with both upper and lower endoscopy revealed a large fungating mass, measuring 15 mm to 18 mm with bleeding involving the third portion of the duodenum and a 3 mm polyp in the sigmoid colon. Biopsy of the duodenum was negative for malignancy and the sigmoid polyp was hyperplastic.

Over the next few weeks, he continued to experience fatigue along with persistent melena, dyspnea, and syncope, prompting arrival and ultimately hospital admission. His hemoglobin on admission was (5.8) requiring 3 units of packed red blood cells.

Due to worsening anemia, he had a repeat upper endoscopy, again noting the presence of a large fungating mass. Repeat biopsies were taken from the duodenal mass.

## IMAGING

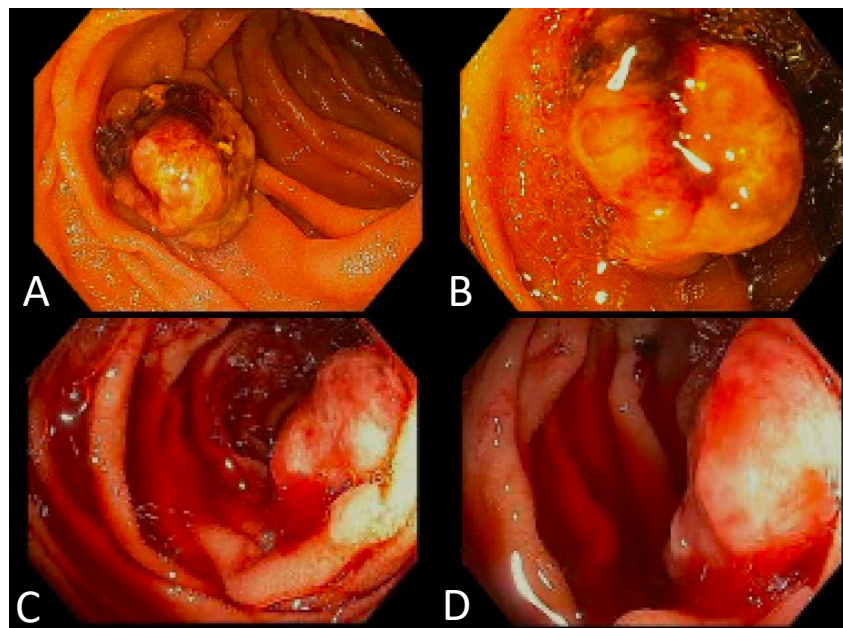


Figure A and Figure B: 3rd portion of the duodenum on subsequent EGD  
Figure C and Figure D: 2nd portion of the duodenum on initial EGD

## TREATMENT COURSE

Initial pathology indicated poorly differentiated carcinoma, and the slides were sent to Mayo Clinic for additional review. Final pathology report from Mayo suggested the possibility of a renal primary and molecular diagnosis was consistent with clear cell renal cell carcinoma.

His PET/CT following recent hospital admission showed innumerable hypermetabolic soft tissue and osseous lesions of the head, neck, chest, abdomen, and pelvis consistent with widespread metastatic disease. He was seen in the Oncology clinic after his diagnosis. Given the severity of his metastatic disease, he ultimately decided for palliative treatment with Nivolumab and Cabozantinib. Shortly after, he transitioned to home hospice and unfortunately is now deceased.

## DISCUSSION

When treating patients for any type of malignancy having a correct diagnosis is vital to both therapy options and prognosis. All cancers, especially those that frequently metastasize such as renal cell carcinoma, have their typical site of metastasis.

When a patient has a cancer of unknown primary it is important to first rule out the most likely sources for the primary cancer. Metastasis to the small bowel is rare and when it does occur the most common primary is melanoma.

In the few case reports of RCC metastasis to the small bowel GI bleeding is a common symptom, such as our patient. This is likely due to the vascular nature of RCC. It can also present with symptoms secondary to mass effect such as jaundice, obstruction, or intussusception.

For this patient it was a strong clinical suspicion to get repeat biopsies and sending the sample to Mayo Clinic which provided the correct diagnosis. Due to the rarity of RCC metastasis to the duodenum there is no standard treatment protocol, and each case needs to be tailored to the specific patient.

In a patient with widespread metastasis systemic therapy or palliative treatment options are likely better options compared to surgical resection for patients with a solitary small bowel lesion. Although the small bowel is not a common site for metastasis, especially RCC, it should be on the differential for undifferentiated carcinoma of the small bowel.

## REFERENCES

1. Atkins, Michael B. "Clinical manifestations, evaluation, and staging of renal cell carcinoma." *UpToDate*. Waltham, MA: UpToDate Inc. [www.uptodate.com/contents/clinical-manifestations-evaluation-and-staging-of-renal-cell-carcinoma](http://www.uptodate.com/contents/clinical-manifestations-evaluation-and-staging-of-renal-cell-carcinoma) [accessed 23.12.17] (2013).
2. Desai, Mihir M., et al. "Trends in incidence of metastatic prostate cancer in the US." *JAMA Network Open* 5.3 (2022): e222246-e222246.
3. Lens M., Bataille V., Krivokapic Z. Melanoma of the small intestine. *Lancet Oncol.* 2009;10:516-521.
4. Rustagi T, Rangasamy P, Versland M. Duodenal bleeding from metastatic renal cell carcinoma. *Case Rep Gastroenterol.*
5. Skinner, Donald G., et al. "Diagnosis and management of renal cell carcinoma A clinical and pathologic study of 309 cases." *Cancer* 28.5 (1971): 1165-1177.