

Sigmoid Colonic Polyp as Initial Presentation of Metastatic Papillary Renal Cell Carcinoma

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Background: Upon initial presentation, 25%-30% of patients with renal cell carcinoma have metastatic disease. Metastasis to the gastrointestinal tract is rare, but when it occurs, the large bowel is the least common site.

Case Report: A 75-year-old white male presented with vague abdominal symptoms and worsening hemoglobin and hematocrit levels. Colonoscopy revealed a polyp in the distal portion of the sigmoid colon. Histologic and immunohistochemical analysis suggested metastatic papillary renal cell carcinoma.

Conclusion: To the best of our knowledge, this patient had a rare case of metastatic papillary renal cell carcinoma that metastasized to the colon and presented as a colon polyp.

Keywords: Colonic polyps, neoplasm metastasis, renal cell carcinoma

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INTRODUCTION

Renal cell carcinoma (RCC) accounts for 3% of all malignancies in adults and roughly 90% of all malignant renal neoplasms and has a diverse clinical presentation.^{1,2} RCC is divided into 5 main histologic subtypes: clear cell (70%-80%), papillary (14%-17%), chromophobe (4%-8%), collecting duct (<1%), and unclassified.³ At initial presentation, 25%-30% of patients with RCC have metastatic disease.¹ Metastasis is most common to the lungs, bone, liver, brain, and lymph nodes, although it is also seen in unusual sites, such as the gastrointestinal tract, skin, eyes, and tongue.⁴ Of the gastrointestinal tract metastatic sites, the large bowel is the least common site of metastatic RCC.⁴ The sporadic case reports that do exist describe metastasis to multiple colon sites and/or colon polyps.⁴ To the best of our knowledge, our patient had a rare case of metastatic papillary RCC that metastasized to the colon and presented endoscopically as a colon polyp.

CASE REPORT

A 75-year-old white male presented to the emergency department with abdominal pain, nausea, vomiting, diarrhea, testicular pain, and decreased appetite. The patient's medical history included gastritis, renal insufficiency, chronic myelogenous leukemia, and internal hemorrhoids. Because of the patient's worsening hemoglobin and hematocrit levels (9.8 g/dL and 29.3%, respectively), an esophagogastroduodenoscopy was performed; it revealed no acute bleeding, mild gastritis, and a hiatal hernia. The

patient was transfused and scheduled for a diagnostic colonoscopy. A 0.2-cm pre-cecal polyp was removed with a cold snare; histologic analysis demonstrated a tubular adenoma. A 0.3-cm semipedunculated polyp in the distal portion of the sigmoid colon was also removed with a cold snare (Figure 1); histologic and immunohistochemical (IHC) analysis suggested metastatic papillary RCC (Figure 2). Diverticulosis and nonbleeding internal hemorrhoids were also noted. Subsequent pathologic staining and IHC analysis of biopsy samples from a right gluteal mass helped confirm the suspicion of metastatic papillary RCC (Figure 3). Computed tomography (CT) of the abdomen using contrast showed 3 masses in the right kidney (Figure 4); the largest measured 3.8 cm at its greatest dimension. The left kidney contained a single lesion that measured 1.6 cm at its largest dimension. The masses were not biopsied during the patient's stay. At the time of this reporting, the patient had not decided on his treatment course and wanted to obtain another opinion.

DISCUSSION

Metastasis of RCC to the gastrointestinal tract is rare, but metastasis to the stomach and small bowel is significantly more common than to the colon.^{2,5-10} The cancers that most commonly metastasize to the colon are breast cancer, stomach cancer, and melanoma.⁷ Of the scant literature documenting RCC metastasis to the colon and other unusual sites, clear cell RCC accounts for the majority of cases.⁴ Metastasis of RCC to atypical sites usually occurs in



Figure 1. A semipedunculated 0.3-cm polyp in the distal portion of the sigmoid colon found via colonoscopy.

cases that recur many years after resection.⁴ In addition, most documented cases of colon polyp involvement describe multiple colon polyps with renal histologic morphology.⁴ Our case is unique in that it involves metastatic papillary RCC to a colon polyp as an initial clinical presentation of RCC. The literature reports that 25%-30% of patients have metastasis at initial presentation.¹ Our patient never had a nephrectomy and, thus, no postnephrectomy recurrence, making his presentation of metastasis to an atypical location, such as the bowel, quite unique. This patient's vague abdominal symptoms led to subsequent workup and eventual diagnosis of new-onset RCC and metastasis.

In the single sigmoid colon polyp (Figure 1), much of the lamina propria was replaced by a population of epithelioid cells arranged in nests and rare tubule-like structures. The cells had abundant cytoplasm that varied from quite eosinophilic- and oncocytic-appearing to more finely vacuolated. Histologically, the cells were consistent with the eosinophilic type of papillary RCC (Figures 2 and 3). The subsequent biopsy of the right gluteal mass helped confirm and classify the tumor and metastasis.

These results, together with histologic analysis of the polyp and gluteal mass as well as evidence of renal masses on CT, confirm that the context of the sigmoid colon polyp represents metastasis from a primary papillary RCC.

Metastatic RCC disease is often incurable. For patients with advanced non-clear cell RCC (patients with stage IV disease and those with metastasis or recurrent disease), first-line treatment includes vascular endothelial growth factor-directed therapy (eg, sunitinib) instead of immunotherapy.¹¹ Much of the clinical data stems from the clear-cell subtype; thus, many patients with non-clear cell RCC are often enrolled in a clinical trial and pursue multiple treatment opinions. If the non-clear cell RCC is localized (stage I to stage III), surgical therapy without adjuvant therapy is recommended.¹¹

CONCLUSION

This case emphasizes how RCC can present with vague symptoms and may remain asymptomatic until the disease is advanced and metastasis has occurred. Traditional symptoms of flank pain, palpable renal mass, and hematuria may occur in only a small subset of patients. In this case, vague abdominal symptoms and a decrease in hemoglobin

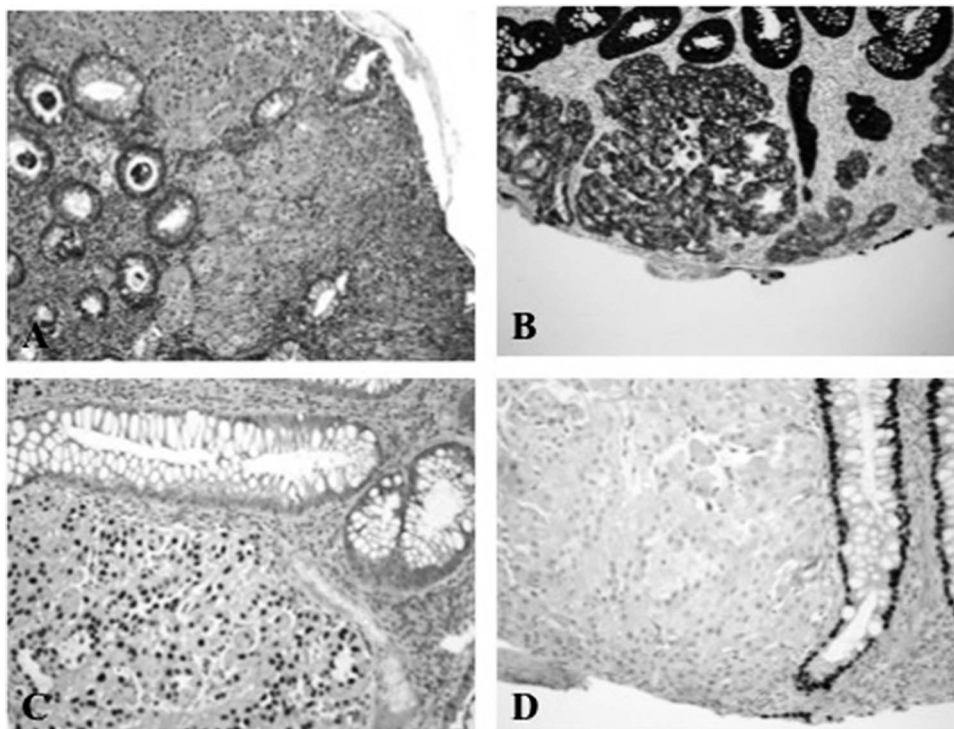


Figure 2. Sigmoid colon polyp: (A) H&E stain of colonic sigmoid polyp mucosa; (B) IHC stain positive for CAM 5.2; (C) IHC stain positive for PAX8; (D) IHC stain negative for CDX2. H&E, hematoxylin and eosin; IHC, immunohistochemical.

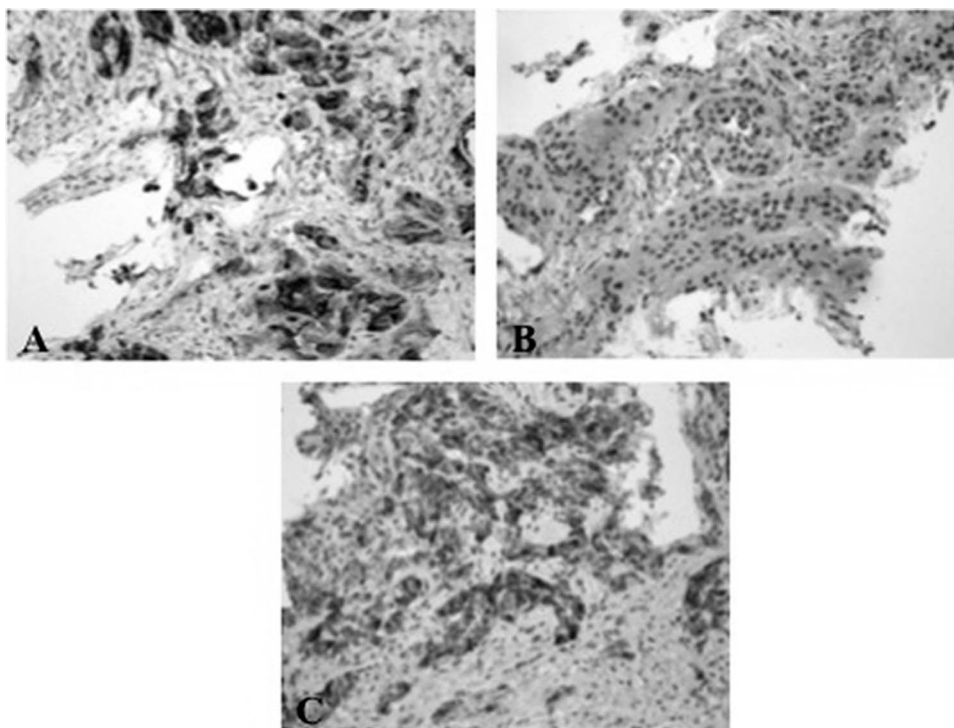


Figure 3. Right gluteal mass: (A) IHC stain positive for PAX2; (B) IHC stain positive for epithelial membrane antigen (EMA); (C) IHC stain positive for CK7. IHC, immunohistochemical.

and hematocrit levels led to subsequent endoscopic workup and findings of polyps with atypical immunohistologic characteristics. Although an uncommon occurrence, RCC may metastasize to atypical locations, such as the colon. The suspicious histologic findings, in conjunction with CT analysis of the renal mass, led to our diagnosis.

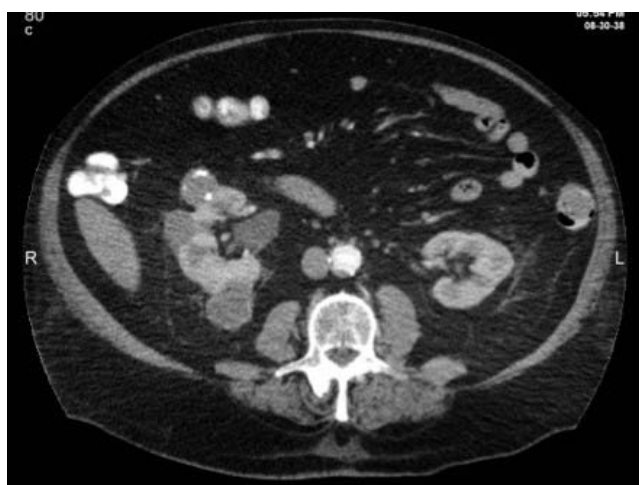


Figure 4. Computed tomography of the abdomen with contrast demonstrates 3 masses in the right kidney, the largest measuring 3.8 cm at its greatest dimension, and 1 mass in the left kidney measuring 1.6 cm at its greatest dimension, all of which have calcifications and do not measure simple fluid density.

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