TUMOR-COLONIC FISTULA IN A PATIENT WITH RENAL CELL CARCINOMA

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INTRODUCTION

- Internal gastrointestinal (GI) fistulas can occur between different segments of the GI tract or between the GI tract and another nearby structure.
- Most arise due to a surgical complication or occasionally from an inflammatory process, such as inflammatory bowel disease and diverticulitis. Rarely, malignant tumors can erode to the GI tract forming a tumor-bowel fistula (TBF).

➢ We describe a patient with late-stage renal cell carcinoma (RCC) presenting with persistent fevers and diarrhea secondary to a TBF.

CASE PRESENTATION

A 55-year-old female with metastatic renal cell carcinoma, presented to the ER with one week of fever, abdominal discomfort, and non-bloody diarrhea. She denied nausea, vomiting, sick contacts or recent travel.

On arrival she was febrile (101.4 F), heart rate of 143 bpm. The reminder of the physical exam was unremarkable. **Laboratory results:** WBC of 52.9 x 109 /L. Blood, urine and stool cultures, fecal calprotectin and Clostridium difficile tests were negative.

CT scan of the abdomen and pelvis: necrotic mass in the left aspect of the pelvis that appeared to erode the sigmoid colon (Fig.1).

Vancomycin and piperacillin/tazobactam were initiated.

Sigmoidoscopy: 2 cm area in the sigmoid colon with direct communication to a mass that was biopsied (Fig.2).

The pathology findings were consistent with RCC (Fig.3). A transverse colostomy with mucous fistula was successful.

➢ She completed 14 days of antibiotic therapy and the fever resolved. Five months later she has had no complications and continued treatment with immunotherapy and radiation.

IMAGING

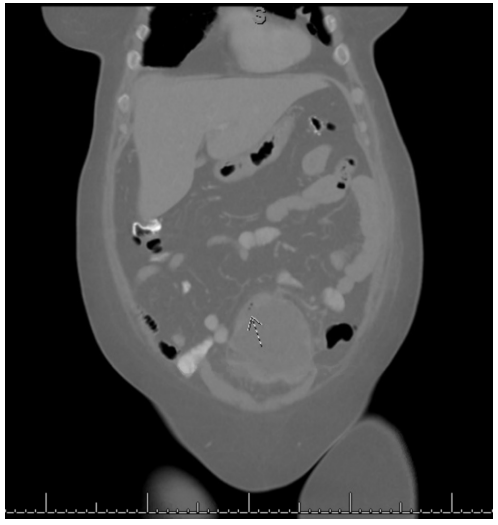

Fig 1. CT scan of the abdomen and pelvis showed a necrotic mass in the left aspect of the pelvis that appeared to erode the wall of the sigmoid colon with a possible fistula between the mass and the bowel lumen

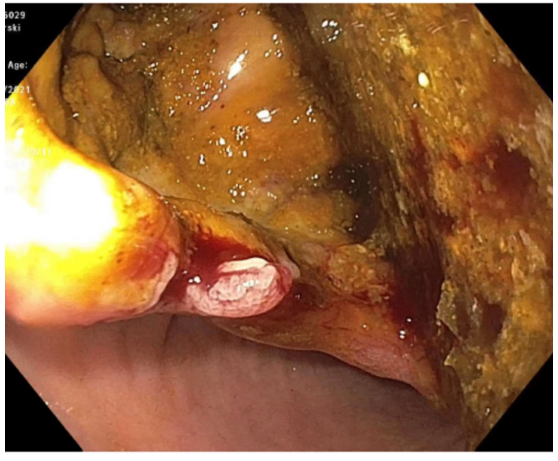

Fig 2. Flexible sigmoidoscopy revealing a 2 cm erosion of the sigmoid colon with direct communication to the mass

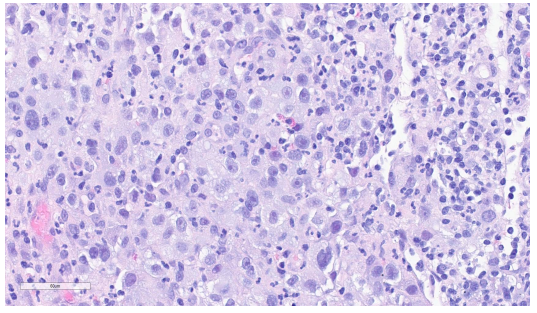

Fig 3. H&E image of the colon biopsy. The large cells with variably sized nuclei, sometimes prominent nucleoli and abundant eosinophilic cytoplasm form a sheet of neoplastic cells. On the right-hand side of the image the smaller cells are plasma cells and lymphocytes with a few neutrophils

DISCUSSION

- GI involvement by RCC is very rare and mostly occurs by metastatic spread to the small bowel.
- Formation of a TBF might occur spontaneously from tumor eroding to the bowel or as a consequence of chemotherapy and/or radiotherapy. Due to the retroperitoneal location of the kidney, the colon is almost never affected.
- From rare reported cases, patients mainly present with lower GI bleeding. In our patient, migration of colonic contents to the tumor mass via TBF may have led to superinfection of the mass.

➢ In the presence of intra-abdominal tumors, especially several metastatic masses, the presence of fever can be a sign of TBF and appropriate imaging with CT scan and careful endoscopic examination are necessary to establish a diagnosis and guide the surgical management.

REFERENCES

1. Paine E, Daram SR, Bhaijee F, et al. Renal cell carcinoma with direct colonic invasion. Endoscopy. 2012;44 Suppl 2 UCTN(SUPPL. 2). doi:10.1055/S-0031-1291652

2. Karellas ME, Jang TL, Kagiwada MA, Kinnaman MD, Jarnagin WR, Russo P. Advanced-stage renal cell carcinoma treated by radical nephrectomy and adjacent organ or structure resection. BJU Int. 2009;103(2):160-164. doi:10.1111/J.1464-410X.2008.08025.X

3. Byrnes KG, Khan JSA, Haroon UM, McCawley N, Cheema IA. Management of colon-invading renal cell carcinoma: Operative technique and systematic review. Urology Annals. 2021;13(1):1. doi:10.4103/UA.UA_86_20

4. Sadler GJ, Anderson MR, Moss MS, Wilson PG. Metastases from renal cell carcinoma presenting as gastrointestinal bleeding: two case reports and a review of the literature. BMC Gastroenterol. 2007;7. doi:10.1186/1471-230X-7-4

5. Tirumani SH, Baez JC, Jagannathan JP, Shinagare AB, Ramaiya NH. Tumor-bowel fistula: what radiologists should know. Abdom Imaging. 2013;38(5):1014-1023. doi:10.1007/S00261-013-9987-6