THIEME OPEN ACCESS

Metastatic Clear-Cell Renal Carcinoma: An Exceptional Cause of Ileocolonic Intussusception in Adults

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Abstract

Introduction Intussusceptions in adults are rare, representing 1% to 5% of intestinal obstructions in this age group. This condition can be caused by benign and malignant lesions acting as lead points, the latter being the most frequent. Furthermore, the diagnosis is challenging due to the non-specific symptoms with variable duration.

Case Presentation A 43-year-old man, with a history of localized clear-cell renal carcinoma (ccRCC) treated 9 years earlier with a right radical nephrectomy, presented with bowel obstruction symptoms. An abdominal computed tomography scan showed an ileocolonic intussusception. Hence, the patient required a right hemicolectomy with ileotransverse anastomosis. The histopathological analysis showed a metastatic ccRC to the terminal ileum causing the intussusception.

Discussion Adult intussusceptions are rare. However, they should be considered in the differential diagnosis of patients with abdominal pain and symptoms of bowel obstruction. Metastases of renal cancer to the small bowel are uncommon and even more so in the form of intussusception. Definitive treatment must be tailored to the patient's condition and underlying cause.

Keywords
- intussusception in adults
- renal carcinoma
- metastatic-renal cancer

Introduction

Intussusception represents 1% to 5% of the cases of bowel obstruction in adults, and up to 90% involve a mass acting as a lead point. Benign and malignant neoplasms cause up to two-thirds of the cases with a lead point, and malignant neoplasms represent up to 50% of the neoplastic causes.[1] The duration of the symptoms is variable, and they are commonly non-specific.[2] Definitive treatment must be tailored to the patient's condition and underlying cause.

Case Report

A 43-year-old male patient, with a history of localized clear-cell renal carcinoma (ccRCC) treated 9 years earlier with a right radical nephrectomy, who presented to the Emergency Department with vomiting, abdominal pain, and bloody stools. The physical examination showed tachycardia and a painful mass in the right lower quadrant. An abdominal computed tomography (CT) scan showed an ileocolonic intussusception (►**Fig. 1**).

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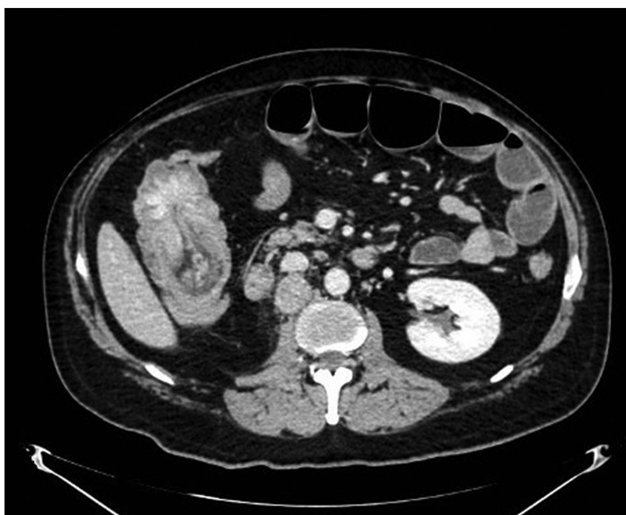

Fig. 1 Abdominal CT showing the target sign described in intussusception.

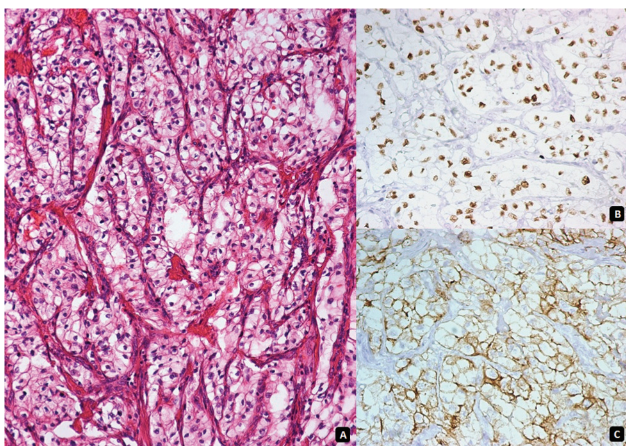

Fig. 2 (**A**) Histopathological analysis showing a neoplasm composed of medium to large cells with clear cytoplasm, central nuclei, and prominent nucleoli with an acinar growth pattern and separated by vascular structures. (**B**,**C**) Immunohistochemical reactions: PAX8 and CD-10 respectively.

Due to intestinal obstruction, the patient underwent laparotomy, in which an ileocolonic intussusception reaching the hepatic flexure was found, requiring a right hemicolectomy with ileotransverse anastomosis.

The histopathological analysis showed a metastatic ccRCC to the terminal ileum measuring 5 cm x 4 cm, with negative surgical margins, and no lymph nodes involved (►**Fig. 2**). The patient was discharged in good clinical condition six days after surgery, with follow-up at the outpatient clinic, where he underwent systemic treatment with tyrosine-kinase inhibitors.

Discussion

The diagnosis of intussusception may be challenging due to the spectrum of symptoms with variable duration. The clinical manifestations include nausea, vomiting, gastrointestinal bleeding, changes in stool pattern, and weight loss.[2] Recent series[3,4] of adult patients with intussusception have reported abdominal pain as the most frequent symptom, occurring in 54.5% to 96.42% of the cases, followed by vomiting in 10% to 71.42%, abdominal distension in 4% to 35.7%, gastrointestinal bleeding in 6% to 28.57%, and changes in the pattern of bowel movements in 8% to 32.14%. The abdominal CT scan is a useful tool with diagnostic accuracy close to 100%, in which sausage-shaped double-ring lesions with target (bullseye) signs can be observed.[1] The incidence of malignancy as a cause of small bowel intussusception ranges from 1–40%, with the majority being due to metastatic disease.[5]

In the case herein reported, the lead point was caused by a metastatic ccRCC nine years after radical nephrectomy. The interesting aspect of this case is the infrequency of the metastasis of a renal carcinoma to the gastrointestinal tract and, even more exceptionally, its presentation as a bowel intussusception, since renal carcinoma usually metastasizes to the lungs, lymph nodes, and bones, while metastases to the small bowel are reported in only 4% of the cases.[6]

Since most intussusceptions in adults are related to a mechanical cause, surgery has been used as the primary definitive treatment. In addition, it should be considered that endoscopic reduction and surgical reduction without resection of the affected segment carries the potential risk of intussusception recurrence and missing a malignant lesion.[4,7]

To conclude, although adult intussusceptions are rare, they must be included in the differential diagnosis of acute abdominal pain. The definitive treatment should consider the clinical presentation, the patient's general condition, and the risk of malignancy.

Author Contributions

FEAB, AHT, CSL, and JJAR: designed the work, collected and interpreted the data, and drafted the manuscript. NSN interpreted the data, critically revised the manuscript, and performed overall supervision. All of the authors contributed to the final approval of the manuscript and agreed to be accountable for all aspects related to the accuracy or integrity of the work.

Protection of Human and Animal Subjects

The authors declare that no experiments were performed on humans or animals for the present study.

Confidentiality of Data

The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to Privacy and Informed Consent

The patient provided informed consent for the publication of the present case report and images.

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Conflict of Interests

The authors have no conflict of interests to declare.

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