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Images of Interest / Imagens de Interesse

Gastrointestinal Bleeding Due to Pancreaticoduodenal Metastasis of Renal Carcinoma

Hemorragia Gastrointestinal Secundária a Metástase Pancreatoduodenal de Carcinoma Renal

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Abstract

Renal cell carcinoma has the potential to metastasize to almost any organ. However, gastrointestinal metastases are rare, and duodenal involvement is particularly uncommon, typically occurring when disease is already widespread throughout the body. This article describes a 76-year-old patient with a history of nephrectomy due to renal cell carcinoma, who presented with upper gastrointestinal bleeding. Computed tomography showed a hypervascular nodule in the nephrectomy site, a left adrenal mass and a hypervascular lesion involving the medial wall of the duodenum and the uncinate process of the pancreas. The lesion was biopsied, confirming the diagnosis of clear cell renal cell carcinoma metastasis.

Keywords

Renal cell carcinoma; Gastrointestinal hemorrhage; Computed tomography; Neoplasm metastasis; Duodenal diseases.

Resumo

O carcinoma de células renais apresenta potencial de metastização para virtualmente qualquer órgão. No entanto, metástases gastrointestinais são raras, particularmente com envolvimento duodenal, ocorrendo tipicamente quando a doença já se encontra disseminada. Este artigo descreve um paciente de 76 anos com antecedentes de carcinoma de células renais operado, que se apresentou com quadro de hemorragia digestiva alta. A tomografia computadorizada demonstrou um nódulo hipervascular no local de nefrectomia, uma massa na glândula supra-renal esquerda e uma lesão hipervascular a envolver a parede medial do duodeno e a apófise unciforme do pâncreas. Foi realizada biópsia da lesão que confirmou tratar-se de metástase de carcinoma de células renais claras.

Palavras-chave

Carcinoma de células renais; Hemorragia gastrointestinal; Tomografia computadorizada; Metástase neoplásica; Doenças duodenais.

Case Report

We present the case of a 76-year-old patient who presented to the Emergency Department with melena, fatigue and dizziness. The patient had a history of right nephrectomy four years prior due to renal cell carcinoma (RCC). Laboratory evaluation revealed anemia.

A computed tomography (CT) scan of the abdomen revealed a hypervascular lesion involving the medial wall of the duodenum and the uncinate process of the pancreas and causing biliary and pancreatic duct obstruction (Figures 1 and 2). A mass in the left adrenal gland was also seen (Figures 1 and 2), as well as a hypervascular nodule in the nephrectomy site which demonstrated growth on a CT performed one year later (Figure 3). These findings were suggestive of RCC recurrence and metastatic spread. The pancreaticoduodenal lesion was considered the likely source of the upper gastrointestinal (UGI) bleeding. An UGI endoscopy was performed and revealed a friable exophytic duodenal lesion with an adherent blood clot consistent with recent hemorrhage. No active bleeding was detected during the endoscopy; therefore, no hemostatic procedure was performed. The patient was managed supportively with a blood transfusion and monitoring. The lesion was then biopsied and results confirmed duodenal involvement by clear cell RCC. Systemic treatment for metastatic RCC was initiated, and due to biliary obstruction, a common bile duct stent was later placed. After approximately one year, disease progression was identified at the nephrectomy site (Figure 3), prompting a change in the systemic treatment regimen. The patient remains under ongoing surveillance.

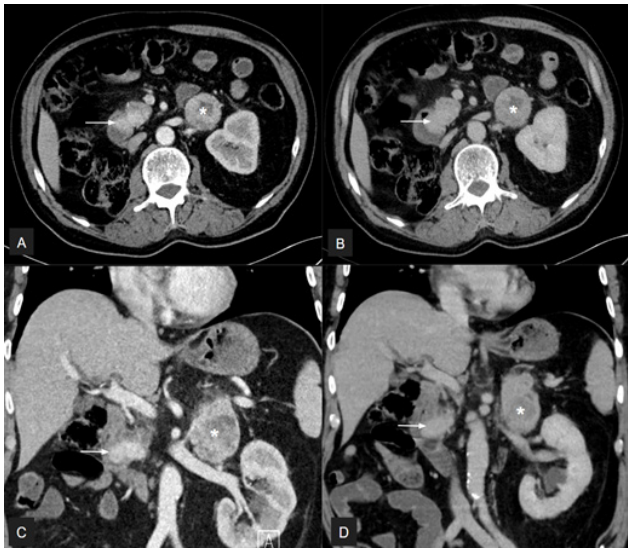

Figure 1 – Abdominal CT images (A - axial late arterial phase image; B - axial venous phase image; C - coronal late arterial phase image; D - coronal venous phase image) showing a hypervascular lesion (white arrows) involving the medial wall of the duodenum and the uncinate process of the pancreas. A lesion in the left adrenal gland can also be seen (white asterisks).

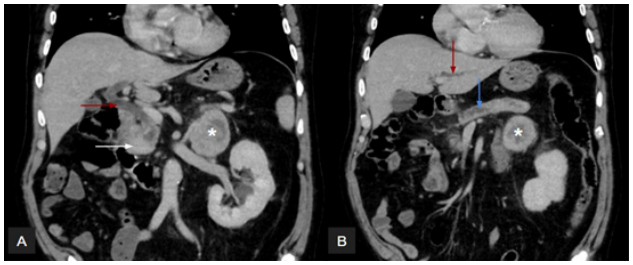

Figure 2 – Abdominal venous phase CT coronal images showing bile duct dilation (extra and intrahepatic) (red arrows), as well as dilation of the main pancreatic duct (blue arrow in B) caused by a hypervascular pancreaticoduodenal lesion (white arrow). A lesion in the left adrenal gland can also be seen (white asterisks).

Discussion

RCC has the potential to metastasize to almost any organ, with some of the most common metastatic sites being the lungs, liver, bones and adrenal glands. Pancreatic metastases are less common overall, although RCC represents one of the most frequent primary tumors metastasizing to the pancreas. Duodenal metastases are even rarer, usually occurring when the disease is already widespread.[1,3] In this case, imaging could not reliably determine whether the metastatic lesion originated in the pancreas or the duodenum, as there was comparable involvement of both structures.

Patients with metastases involving the duodenum may show symptoms of UGI bleeding, such as melena, fatigue and pallor. They may also present with symptoms of bowel obstruction or perforation.[2,3]

These metastases typically present on CT as hyperenhancing lesions.[2,3] Complications such as bile duct obstruction, perforation and active bleeding can also be detected with imaging.[2,3]

Endoscopic studies can play a key role in the diagnosis, allowing for the direct visualization and biopsy of duodenal or periampullary lesions, which are typically seen as ulcerated masses, nodules or polyps.[2,3]

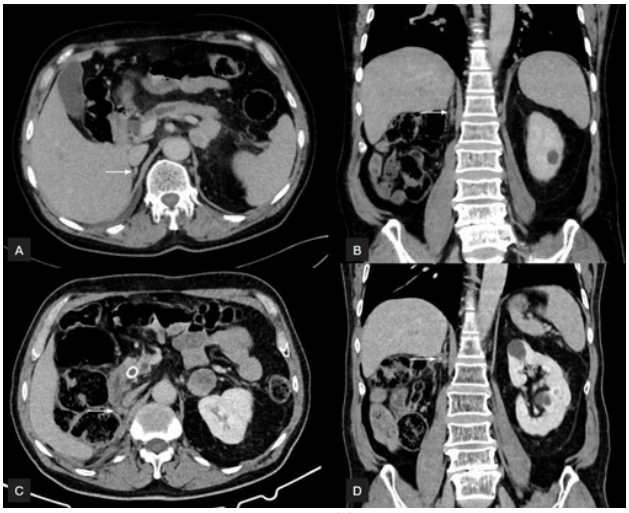

Figure 3 – Abdominal venous phase CT images obtained one year apart. A and B were obtained when the patient presented in the emergency department (A - axial, B - coronal) and C and D were obtained one year later (C - axial, D - coronal). These images show a small lesion in the right nephrectomy site (white arrows) showing growth one year later, suggestive of local tumor recurrence.

Deciding the most appropriate treatment depends on the lesion and the patient's comorbidities. When possible, solitary metastases should be treated with surgery. When the disease is already disseminated throughout the body, treatment is typically palliative.[2,3]

In conclusion, when patients with a history of RCC present with gastrointestinal bleeding, metastatic disease should be considered as a differential diagnosis. Keeping this hypothesis in mind will reduce delays in diagnosis and optimize the chances for surgical treatment.

Ethical Disclosures / Divulgações Éticas

Conflicts of interest: The authors have no conflicts of interest to declare.

Conflitos de interesse: Os autores declaram não possuir conflitos de interesse.

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Confidentiality of data: The authors declare that they have followed the protocols of their work center on the publication of data from patients.

Confidencialidade dos dados: Os autores declaram ter seguido os protocolos do seu centro de trabalho acerca da publicação dos dados de doentes.

Protection of human and animal subjects: The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Protecção de pessoas e animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia da Associação Médica Mundial.

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