Double Intussusceptions in the Small Intestine Caused by Metastatic Renal Cell Carcinoma: Report of a Case

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Abstract
Renal cell carcinoma (RCC) may metastasize to almost any organ, but it is unlikely to be a direct cause of intussusception. We report a case of double enteric intussusceptions caused by metastatic RCC in a 64-year-old man. The patient presented with intermittent abdominal pain and diarrhea 11 years after undergoing a radical nephrectomy. Abdominal computed tomography (CT) showed two enhanced masses with the “target” sign, suggesting enteric intussusceptions. We performed partial enterectomy, and histological examination confirmed that the tumors had originated from RCC. To our knowledge, this is the first report of metastases from RCC manifesting as synchronous intraluminal polypoid tumors serving as the lead points of two intussusceptions in the small intestine. Thus, the possibility of multiple tumor metastases in the small intestine, with or without intussusceptions, should be considered in patients with recurrent RCC.

Key words Intussusception · Metastatic tumor · Renal cell carcinoma

Introduction
Intussusception is an unusual cause of intestinal obstruction in adults, accounting for only about 1%–5% of bowel obstructions.1–3 In contrast to childhood intussusception, it is usually not diagnosed before laparotomy, because the clinical picture varies greatly. Tumors in the small intestine are especially difficult to diagnose by endoscopy, regardless of whether they are primary or metastatic. We report a case of double intussusceptions caused by metastatic renal cell carcinoma (RCC) in the small intestine, which were preoperatively diagnosed by computed tomography (CT).

Case Report
A 64-year-old man presented with a 1-month history of intermittent abdominal pain about 11 years after undergoing a radical nephrectomy for a right RCC in another hospital. Although he had received interferon chemotherapy for multiple metastatic tumors of the lung and the hilar lymph nodes 3 years earlier, its effect was unremarkable (Fig. 1). He subsequently underwent distal gastrectomy for advanced gastric cancer in our hospital about 8 months before the development of intermittent abdominal pain and diarrhea. A colonoscopy showed no unusual findings, but 1 month later he started vomiting, and a provisional diagnosis of postoperative adhesional ileus was made. However, his symptoms were not relieved by conservative treatment and an abdominal CT scan showed two enhanced masses with the “target” sign in the mid and right pelvis, suggesting enteric intussusceptions (Fig. 2). Thus, we made a preoperative diagnosis of metastatic RCC in the small intestine. Laparotomy revealed intussusceptions of the ileum 200 cm proximal to the ileocecal valve and 300 cm into the jejunum. We reduced the intussusceptions manually, and resected 5 cm of the ileum and jejunum containing the tumors. Two polypoid and lobular tumors measuring 3.5 × 3.0 × 3.5 cm each in the intussusception segments were found in the resected specimens (Fig. 3). Postoperative histological examination revealed tumor cells with round hyperchromatic nuclei and abundant clear cytoplasm, arranged in alveolar nests, suggestive of metastatic RCC. They were clearly distinguishable from the former resected specimen of gastric adenocarcinoma (Fig. 4). The patient recovered uneventfully from this operation, but 2 months later he

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underwent craniotomy for a brain metastasis. The disease progressed and he died a few months later.

Discussion

Intussusception in adults is often difficult to diagnose preoperatively, unlike intussusception in children, who often present with characteristic symptoms and signs including sudden intermittent colicky pain, vomiting, and bloody mucoid stools. Although radiological studies may be useful in the preoperative diagnosis of intussusception, the varied symptomatology makes it difficult to define a perfect diagnostic formula. Some authors advocate the use of CT scans, barium studies, abdominal ultrasound, plain films, and radionuclide studies. According to one study, abdominal CT scans provided a correct diagnosis in 78% of cases. In fact, Desai et al. suggested that the diagnostic process for adult intussusception might require only abdominal plain films and CT scans before surgical intervention.