Endoscopic Mucosal Resection of a Large Gastric Metastasis from Renal Cell Carcinoma

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Abstract

Gastric metastasis from renal cell carcinoma (RCC) occurs in less than 1% of cases. A variety of management options have been described for this condition, however, total or partial gastrectomy is the most common therapeutic approach. We present a case of a large gastric metastatic lesion from a RCC diagnosed 10 years before. This was treated with endoscopic mucosal resection (EMR) without evidence of residual lesion after 10 months of follow-up.

Introduction

Renal cell carcinoma (RCC) accounts for 3% of all adult malignancies and 25–30% of RCC patients have metastatic disease at presentation.1 A low percentage of patients present with metastatic disease up to 25 years after initial presentation and treatment. The usual sites of metastasis for RCC include lung (50–70%), liver (30–40%), bone and soft tissue (10%), and brain (5%).2 Gastric metastasis from RCC occurs in less than 1% of cases. A variety of management options have been described for this condition, including endoscopic resection. We present a case of a patient with a large polypoid metastatic lesion in the stomach from RCC diagnosed 10 years before. This lesion was treated with endoscopic mucosal resection (EMR) without evidence of residual lesion after 10 months of follow-up.

Case Report

A 69-year-old female presented for endoscopic evaluation with recent iron-deficiency anemia. The patient had a radical left nephrectomy as definitive treatment for a renal cell carcinoma (pT3a pN0) in 2002. She noticed increasing fatigue and lightheadedness, but denied overt gastrointestinal bleeding. She was found to have a hemoglobin level of 10.6 g/dL with an iron level of 5 µmol/L (normal: 8–25). The gastroscopy showed an atypical 2.5-cm sessile polypoid lesion in the gastric body. It was friable with erosions in the mucosal surface, but without active bleeding (Figure 1). We injected the base of the polypoid lesion with saline solution, methylene blue, and diluted epinephrine (1:10,000). There was adequate lifting and subsequent EMR was performed with a combination of coagulation and cutting current (ENDO CUT® Q, Effect 3, ERBE Elektromedizin, GmbH, Tübingen, Germany). No immediate complications were observed at the EMR site (Figure 2). The patient reported no symptoms after the procedure and was discharged. The histopathologic examination of the specimen showed metastatic clear cell renal carcinoma, with free margins of resection (Figures 3 and 4).

Subsequent CT scan of the chest, abdomen, and pelvis 1 month after the procedure did not show evidence of other site of metastasis. The patient was started on oral iron and the hemoglobin level increased to normal range. A follow-up gastroscopy was performed 8 weeks later. This showed scar tissue at the EMR site without
macroscopic evidence of residual disease. Biopsies from the resection site confirmed normal gastric mucosa (Figure 5). The patient has remained asymptomatic and a follow-up CT scan of the abdomen 10 months after the EMR showed stable findings without evidence of metastatic disease.

**Discussion**

Gastric metastasis from renal cell carcinoma is a rare occurrence and confers a poor prognosis. It can present as an incidental finding or associated with anemia, abdominal pain, or gastrointestinal bleeding. There is no standard approach to management, but surgical excision (either total or partial gastrectomy) is the most common therapeutic approach. Endoscopic therapy has been reported as an alternative treatment of these lesions, either with EMR or endoscopic submucosal dissection (ESD). There are 48 cases of gastric metastasis from RCC reported in the literature; however, only 11 patients have been treated with endoscopic resection and one with ESD. A summary of the cases that have been treated endoscopically is presented in Table 1. Unfortunately, in the majority of the cases reported, the endoscopic resection technique is not described in detail. In one report, the lesion size was 3 cm, an endoloop snare was placed at the base, and polypectomy was performed; however, this was an incomplete resection. Another report describes 3 polypoid lesions actively bleeding in the body of the stomach. The lesions were 2–3 cm in size and resected with epinephrine injection and snare polypectomy, but it is unclear if this was a complete resection.

To our knowledge, our case is the largest gastric metastasis from a RCC to be completely resected endoscopically by EMR. The endoscopic resection was carried out without complications, and a repeat gastroscopy after 8 weeks showed no evidence of residual lesion. There were no other metastatic lesions identified on a subsequent CT scan. The patient remains without evidence of disease by endoscopic or radiologic criteria at almost 1 year of follow-up.

In cases with high diagnostic suspicion of invasive gastric metastasis from RCC, prior assessment of depth of invasion by endoscopic ultrasound would be appropriate. However,
Table 1. Summary of Case Reports of Gastric Metastatic Lesions from RCC Treated Endoscopically

| Country   | Cases | Age, y  | Interval, y | Technique                        | Size       | Complete Resection | Outcome                                                                 |
|-----------|-------|---------|-------------|----------------------------------|------------|--------------------|-------------------------------------------------------------------------|
| Japan     | 4     | Mean: 56| Mean: 8.25  | Not specified                     | NS         | NS                 | 2 Patients lived more than 6 mo after resection                          |
| Austria   | 3     | Mean: 72| Mean: 8     | Standard polypectomy + APC        | 1.5 cm     | NS                 | 2 Patients died within 6 mo after resection; The other alive after 2 y with disease |
| Australia | 1     | 65      | 9           | Epinephrine injection + snare polypectomy | 3 cm       | No                 | Alive 6 y after resection with disease                                  |
| UK        | 1     | 71      | 3           | EMR                              | 1.2 cm     | Yes                | Alive after 15 mo                                                       |
| US        | 1     | 60      | 6 mo        | Not specified                     | 6 mm       | Yes                | Died 8 mo after resection                                               |
| S. Korea  | 1     | 79      |             | ESD                              | 6 mm       | Yes                | Alive 6 mo after resection                                               |
| Italy     | 1     | 78      | 5           | Epinephrine injection + snare polypectomy (3 lesions identified) | 2–3 cm     | NS                 | Died 6 mo after resection                                               |
| Canada    | 1     | 69      | 10          | EMR                              | 2.5 cm     | Yes                | Alive 10 mo after resection                                              |

*Current study. APC = argon plasma coagulation; EMR = endoscopic mucosal resection; ESD = endoscopic submucosal dissection; NS = not specified; RCC = renal cell carcinoma.

Figure 5. H&E follow-up post gastric polypectomy. (A) 3 benign gastric mucosal biopsies at polypectomy site taken at 2X magnification. (B) Representative H&E 10X magnification. There is no evidence of residual metstatic RCC.

Our experience shows that gastric metastasis from RCC that appear to be amenable to endoscopic resection can be resected safely and effectively in expert hands.

Disclosures

Author contributions: R. Chibbar wrote the first draft, collected the data for the article, and conducted the literature research; J. Bacani completed the histopathological analysis and description of the histopathology, and reviewed the final draft; S. Zepeda-Gómez reviewed and wrote the final draft, conducted the literature research, and is the guarantor of the article.

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