

# Multiple Polypoid Colonic Metastases from Primary Gastric Signet Ring Cell Carcinoma

Lu-Yang Zhang, Jun-Jun Ma, Lu Zang, Feng Dong, Zi-Rui He, Min-Hua Zheng

Department of General Surgery, Shanghai Minimally Invasive Surgery Center, Ruijin Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai 200025, China

To the Editor: Gastric carcinoma is a common gastrointestinal (GI) malignancy while signet ring cell carcinoma (SRCC) is a well-known poorly differentiated histological type that has a strong tendency for metastasis. The dissemination of gastric carcinoma mainly presents in three patterns. The most common approach for metastasis is through the regional lymph node. Hematogenous spread is also very common and mostly occurs in the liver, lungs, bones, and adrenal gland. In addition, direct adjacent invasion, peritoneal seeding, and Krukenberg tumor are less seen but are also very important in clinic with poor prognosis. In this report, we present a case of rare colonic metastases in the form of multiple polyps from primary gastric SRCC.

A 48-year-old women presented with a symptom of the upper abdominal pain accompanied by regurgitation and hiccup for the past year. On June 26, 2015, she underwent esophagogastroduodenoscopy in a local hospital, which revealed a large ulcerative lesion in the greater curvature near the antrum of the stomach, and biopsy of the lesion indicated signet ring cell adenocarcinoma. Abdominal computed tomography (CT) scan with intravenous contrast was also performed, which revealed the diffused uneven thickening of the antrum of the stomach without any adjacent infiltration. Then, the patient was admitted to the Minimally Invasive Surgery Center of Ruijin Hospital for laparoscopic distal gastrectomy plus D2 lymph node dissection and Roux-en-Y anastomosis on July 10, 2015. Postoperative UICC staging of the primary tumor was pT4aN2bM0, Stage IIIC. She recovered well from surgery and was discharged. Since postoperative follow-up revealed no decrease in tumor markers, total colonoscopy was performed on the patient, which revealed several discrete polypoid lesions in the transverse and ascending colon, measuring 5–10 mm in diameter. Almost all lesions had depressions on the tip, and the margin was unclear [Figure 1a]. The largest one was in the form of a flat discoid shape with erosion at the center [Figure 1b]. Colonoscopy-guided biopsy revealed a signet ring cell adenocarcinoma. Then, a laparoscopic complete mesocolic excision for right-hemicolon cancer was conducted, and no proof for distant metastasis was found during the intraoperative exploration. The pathological report came out several days later, which was quite out of our expectation and revealed six lesions in the specimen. All of which were confirmed as SRCC, which

has grown through the seroma and infiltrated the nerves and vessels. Regional lymph nodes were 15/23 positive for tumor metastases (pT4aN2bM0, Stage IIIC). Since the gastric and colonic specimen shared the same manifestation in both microscopy and immunohistochemical staining [Figure 1c and 1d], it was reasonable to hold the suspicion that these colonic lesions were a special pattern of metastasis from the primary gastric SRCC. After discharge from the hospital, the patient developed ascites two months after the surgery and died within four months.

SRCC is a poorly cohesive carcinoma composed predominantly of tumor cells with prominent cytoplasmic mucin and an eccentrically placed crescent-shaped nucleus. The incidence of gastric cancer has decreased worldwide since the effective treatment of *Helicobacter pylori* infection, while the incidence of SRCC continuous to rise, accounting for 8–30% of gastric cancers.<sup>[1]</sup> SRCC is a huge challenge to clinicians because it is often diagnosed at a highly advanced stage and at a younger age with poor prognosis.

Given the fact that most of these distant metastases to other organs occur in the liver, lungs, and bones, gastric SRCC does have a possibility to spread to some very extraordinary places such as the gingiva or alveolar mucosa of the mandible, according to the previous studies.<sup>[2]</sup> Colonic metastasis is another extremely rare pattern that has only been reported in <10 cases in the PubMed database.<sup>[3–5]</sup> Before such diagnosis could be made, two differential diagnoses of normal polyps and primary colonic carcinoma should be excluded. We reviewed all previous literature and concluded that the key points for correct diagnosis are as follows: (i) history of primary gastric SRCC; (ii) common characteristic presentations by colonoscopy, most metastatic polyps revealed an unclear margin and often have erosion or depression on the tips; (iii) metastatic lesions are prone to be multiple, discrete, and polymorphic that could be

**Address for correspondence:** Dr. Min-Hua Zheng,  
Department of Gastrointestinal Surgery, Center of Minimally Invasive  
Surgery, Ruijin Hospital, Shanghai Jiao Tong University School of  
Medicine, Shanghai 200025, China  
E-Mail: zmhtiger@yeah.net

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

© 2017 Chinese Medical Journal | Produced by Wolters Kluwer - Medknow

**Received:** 11-10-2016 **Edited by:** Li-Min Chen

**How to cite this article:** Zhang LY, Ma JJ, Zang L, Dong F, He ZR, Zheng MH. Multiple Polypoid Colonic Metastases from Primary Gastric Signet Ring Cell Carcinoma. Chin Med J 2017;130:747-8.

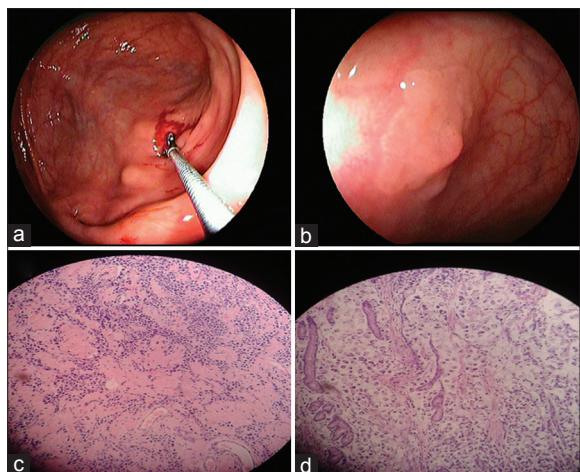
## Access this article online

Quick Response Code:



Website:  
[www.cmj.org](http://www.cmj.org)

DOI:  
10.4103/0366-6999.201596



**Figure 1:** (a) Colonoscopic view of multiple polypoid lesions with depression on the tips and unclear margins. (b) Colonoscopic view of the largest lesion presented in a flat discoid shape with erosion at the center and unclear boundary. (c and d) Surgical specimen of right hemicolon cancer and gastric cancer (hematoxylin and eosin, original magnification  $\times 200$ ). The signet ring cell with a crescent-shaped nucleus was eccentrically placed.

either scattered or restricted while solitary lesions are more likely to be seen in primary colonic SRCC; and (iv) typical pathological manifestation of SRCC by microscopy. With a confirmed history of gastric SRCC, a typical manifestation under colonoscopy, and characteristic pathological findings, the relationship between colonic metastases and primary gastric tumor could be rationally established.

The mechanism of this special metastatic type remains unknown. Hematogenous and lymphatic spread cannot be excluded based on existing evidence. Peritoneal seeding seemed to be the least likely reason because, during these two surgeries, no proof of extensive metastases was found. The strategy for treatment has not been established due to limited cases. For gastric cancer patients without any intestinal tract symptoms or combined risk factors for colon cancer, colonoscopy was not a routine preoperative examination. Abdominal CT scan could not reveal such small metastatic lesions. Hence, it was not clear whether these metastases already exist at the time of the first surgery. After the diagnosis of colonic metastases, we decided to perform another radical surgery for her; considering

that the distribution of these multiple polypoid lesions was limited in the right hemicolon. Thus, this condition could be considered as a solitary metastasis. Gao *et al.*<sup>[3]</sup> mentioned in their study that such nodules could scatter throughout the colon and rectum. In those cases, systemic chemotherapy might be considered rather than surgery. Regardless of the treatments taken, such condition indicates a poor prognosis that leads to death in a short time.

In conclusion, we reported an uncommon pattern of metastasis in primary gastric SRCC that occurred to the colon and presented as multiple colonic polyps. It is significant not to confuse this with normal polyps or primary colonic signet ring cell carcinoma. When colonoscopy discovers such findings in patients with gastric SRCC, the possibility of metastases and poor prognosis should be considered. On the other hand, there have been an increasing number of multifocal GI tumors in recent years. Hence, comprehensive preoperative examinations should be performed to reduce or avoid misdiagnosis and miss-diagnosis.

### Financial support and sponsorship

This research was supported by a grant from National Natural Science Foundation of China (No. 81572818).

### Conflicts of interest

There are no conflicts of interest.

### REFERENCES

1. Pernot S, Voron T, Perkins G, Lagorce-Pages C, Berger A, Taieb J. Signet-ring cell carcinoma of the stomach: Impact on prognosis and specific therapeutic challenge. *World J Gastroenterol* 2015;21:11428-38. doi: 10.3748/wjg.v21.i40.11428.
2. Sauerborn D, Vidakovic B, Baranovic M, Mahovne I, Danic P, Danic D. Gastric adenocarcinoma metastases to the alveolar mucosa of the mandible: A case report and review of the literature. *J Craniomaxillofac Surg* 2011;39:645-8. doi: 10.1016/j.jcms.2010.10.020.
3. Gao B, Xue X, Tai W, Zhang J, Chang H, Ma X, *et al.* Polypoid colonic metastases from gastric stump carcinoma: A case report. *Oncol Lett* 2014;8:1119-22. doi: 10.3892/ol.2014.2254.
4. Tomikashi K, Mitsufuji S, Kanemasa H, Sakai M, Wakabayashi N, Tsuchihashi Y. Gastric cancer metastatic to the colon. *Gastrointest Endosc* 2002;55:561. doi: 10.1067/mge.2002.122030.
5. Lee HC, Yang MT, Lin KY, Tu HY, Zhang TA, Chen PH. Metastases from gastric carcinoma to colon in the form of multiple flat elevated lesions: A case report. *Kaohsiung J Med Sci* 2004;20:552-7. doi: 10.1016/S1607-551X(09)70257-8.