



Metachronous metastasis to the stomach from a primary colon cancer: A case report

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Abstract

Significance: Metastatic neoplasm in the stomach from remote primary tumor is uncommon. Globally, there have only been less than 20 reported cases of gastric metastases from colon cancer. One post-mortem study reported only 0.8% of colon cancer that has metastasized to the stomach. **Clinical Presentation:** We have a 55-year-old male with descending colon adenocarcinoma who underwent left hemicolectomy in 2018. In the same year he underwent chemotherapy with capecitabine and oxaliplatin. A few months after an unremarkable abdominal CT two years post-treatment he complained of a month-long duration of epigastric pain for which he sought consult. **Management:** On admission, upper GI tract endoscopy was done which showed a huge friable fungating mass noted at the proximal corpus extending to the distal corpus. The antrum was not completely visualized due to the mass, precluding the visualization of the pyloric ring. Immunohistochemical studies were positive for CK20, SATB2, CDX-2, and negative for CK7. He was signed out as a case of metastatic adenocarcinoma with a colonic primary. **Recommendation:** Diagnosis is dependent on a high index of suspicion plus imaging to evaluate lesions, possibly endoscopy, especially when presenting in a solitary manner after successful resection of a primary malignancy. Immunohistochemistry aids in the diagnosis. A holistic approach in management is essential, with a median survival of 21 months.

Keywords: case report, gastric metastasis, colon cancer, metachronous endoscopy

Colorectal cancer (CRC) is the fourth most commonly diagnosed internal organ cancer overall in the USA and third most common cancer worldwide. The risk depends on demographic and environmental factors. Approximately 20% of cases with CRC, or two in ten patients, have metastasis at diagnosis. Colon cancer spread can be hematogenous or lymphatic. It can invade transmurally and involve regional lymphatics, and then spread to distant lymph nodes. The liver is the most common site of hematogenous spread (via the portal venous system) which, in turn, can result to pulmonary metastases.

Metastatic neoplasms in the stomach from remote primary tumors are uncommon. If at all, most common among these are from melanoma, breast, and lung cancer. Those of colorectal origin are extremely rare with only a few cases described in medical literature. In one

post-mortem study, only 0.8% of colon cancer metastasized to the stomach.

Case Presentation

We have a 55-year-old male with a diagnosed case of descending colon adenocarcinoma who underwent left hemicolectomy in 2018 and received chemotherapy with eight cycles of capecitabine and oxaliplatin in the same year. He came in two years after due to epigastric pain of one month duration. Pain was graded 5/10, described as intermittent and pressure-like and non-radiating. This was accompanied by unquantified weight loss. There was no dysphagia but there was post-prandial nausea and vomiting. No fever, melena, hematochezia, or changes in stool caliber. He noted early satiety as well as post-prandial bloatedness. Initially he was managed with PPI

therapy, but persistence of symptoms prompted consult.

On physical examination, he had a globular abdomen with a palpable, nodular mass at the epigastric area. Abdominal CT done a few months prior to this consult showed unremarkable results.

An upper GI endoscopy and surveillance colonoscopy were done. On visualization, the lumen was empty with partially distensible walls. A huge fungating and friable mass was noted at the proximal corpus extending to the distal segment at around 40 cm down to the 55-cm level (approximately 15 cm). The mass appeared exophytic surrounded by pale, irregular mucosa. The antrum was not completely visualized during the study due to the mass, precluding the visualization of the pyloric ring. On retroflexion, the scope was tightly hugged by the cardia. On BLI, the mass showed an irregular surface vessel pattern. Multiple representative biopsies were then taken for histopathology. Colonoscopy done showed unremarkable findings (Figure 1).

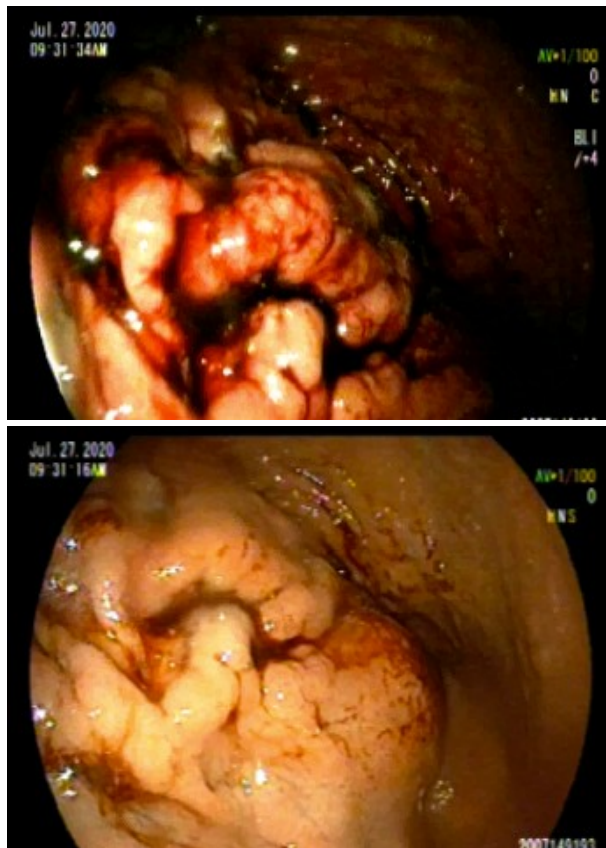


Figure 1. Colonoscopy showed no observed lesions.

Endoscopic ultrasound was also done to determine the depth of tumor involvement, which showed a heterogenous lesion with central hypoechoogenicity and measuring 6x7 cm. This was noted externally and appeared to be encroaching into the gastric wall. Multiple perigastric lymph nodes were appreciated as well (Figure 2).



Figure 2. Endoscopic ultrasound showing a 6x7 cm heterogenous lesion with central hypoechoogenicity, located externally but noted to be encroaching into gastric wall. Multiple perigastric lymph nodes were appreciated.

Histopathology of the mass showed adenocarcinoma. Given the history of malignancy of the colon, the diagnostic challenge was to determine whether this was a primary gastric neoplasm or recurrence/metastasis from the previously treated colonic malignancy.

Immunohistochemical studies were done which showed CK20 (+), SATB2 (+), CDX-2 (+), and CK7 (-). The pathologist signed it out as metastatic adenocarcinoma with a colonic primary. To further evaluate the lesion as well as its surrounding structures, abdominal CT was also done (Figure 3).

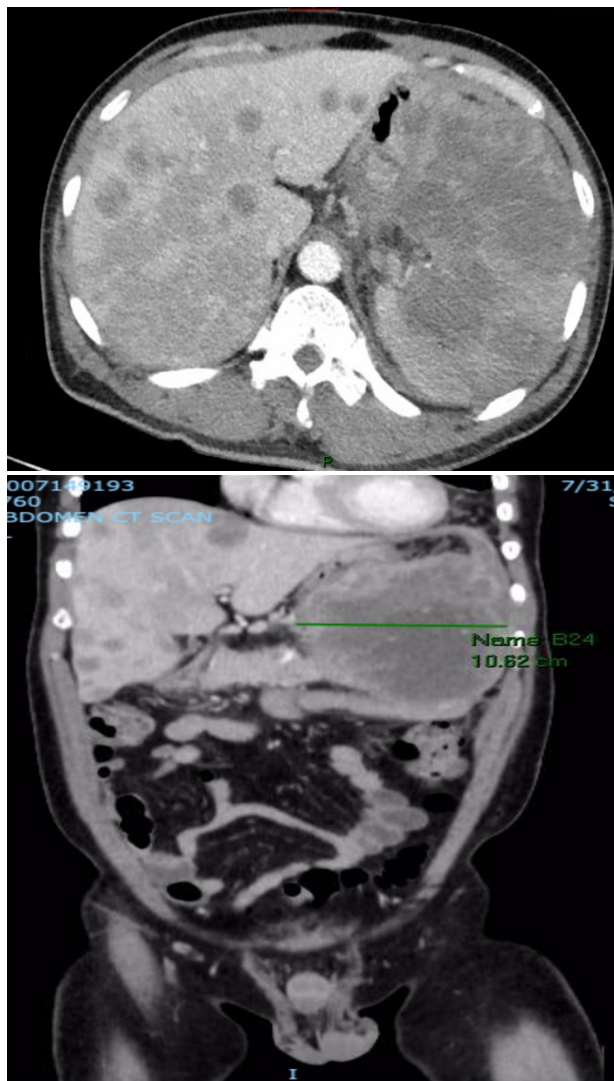


Figure 3. Abdominal CT. Arising from the greater curvature of the stomach was a large exophytic mass with necrotic components.

Abdominal CT revealed that at the level of the fundus was a large, lobulated, heterogeneously enhancing and predominantly exophytic mass with areas of necrosis along the posterolateral gastric wall, with an approximate measurement of 16.3 x 10.6 x 13.7 cm. The mass showed no clear plane of cleavage and displaced the spleen, pancreatic tail, left adrenal gland, and kidney. It was also noted to be closely related to the abdominal wall. The liver was enlarged with a craniocaudal length of 17.1 cm along the midclavicular plane. There were multiple, varisized, ill-defined hypo-enhancing foci with peripheral enhancement scattered in the parenchyma. This was signed out as progressive disease. Palliative treatment was recommended.

A jejunostomy tube was inserted for nutritional build-up. Chemotherapy was planned.

The patient had a stormy hospital course. He contracted pneumonia, developed tumor bleeding, and eventually developed jaundice. The family decided to take him home for palliation. A few days after discharge from the hospital, he expired.

Discussion

Published data on colon metastasis to the stomach is scarce, with few reports showing a similar presentation as the case presented. One such case was reported in 2008. This was a case of high-risk stage II colon cancer patient who underwent twelve cycles of chemotherapy post-resection. Four years later, she came in with abdominal symptoms, with a CT showing gastric mass and immunohistochemistry studies showing colon adenocarcinoma. She underwent resection and subsequent chemotherapy.

Visually, the endoscopic appearance of gastric metastasis is variable. Gastric involvement may be characterized by a single lesion or by multiple lesions.¹ The metastases may have the clinical appearance of a primary stromal gastric tumor, as in this case. Metastasis to the stomach can be mistaken for a primary gastric cancer and this happens when the primary site is not present at the time of finding a gastric lesion.

With adenocarcinoma being the most common of both gastric and colonic malignancies, cancer classification has traditionally been based on tumor location and tumor morphology. The clinical profile of

the patient is of utmost importance. Of equal importance are biomarkers of pathology such as molecular profiling and immunohistochemistry. These are important in diagnosis of cancers in patients of unknown primary, especially those with previously known malignancy.

Based on a report published in 2019, only 14 cases, excluding this case, have been reported worldwide. Analysis done by Terashima et al. showed that the mean age was 61.6 years and the cases involved seven males and seven females.² The most common primary site was the transverse colon (n = 4) and on gross examination in all cases, gastric metastases had a submucosal tumor-like appearance like in this case. According to the Terashima et al. report, additional sites of metastasis included lung, liver, bone marrow and lymph nodes, with nodal metastasis most prominent (n = 5). Surgical resection was done on ten patients, and eight received postoperative chemotherapy. Among those who did not receive these interventions, all died within two years.

Management of these lesions based on recommendations leans towards surgery, if feasible. Termed as *gastric metastasectomy*, selected patients may undergo the procedure with concurrent chemotherapy.

Conclusion

Gastric metastasis from colon cancer is a rare occurrence with less than twenty cases reported worldwide. Diagnosis includes imaging and possibly endoscopy to evaluate these lesions, especially when they present in a solitary manner after successful resection of a primary malignancy. A high index of suspicion plus the aid of immunohistochemistry can guide in the diagnosis. Management is dependent on a holistic approach, with a median survival of 21 months.

Conflicts of Interest

The authors declare no conflicts of interest.

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