Breast Cancer Metastasis to Colon

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Introduction

Breast cancer, which includes ductal and lobular invasive carcinoma, most frequently metastasizes to local and distant lymph nodes, lungs, brain, liver and bone. Lobular carcinoma has a predilection for metastasis to the peritoneum, the gynecological organs and GI tract. Whereas ductal carcinoma most frequently metastasizes to the liver, the lungs and the brain [1]. Triple negative invasive ductal breast carcinoma with metastasis to the gastrointestinal (GI) tract is a rare occurrence, and most often occurs in the fundus and antrum of the stomach [2]. Colorectal breast cancer metastasis is even less common than gastric breast cancer metastasis and can mimic large bowel cancer, causing a misdiagnosis of primary intestinal cancer [2]. In this article, we describe a case of symptomatic lower GI bleeding caused by an invasive ductal breast carcinoma metastasis to the colon

Case Report

A 67-year-old female with a past medical history of triple negative metastatic ductal breast carcinoma in left breast and HER2+ invasive ductal carcinoma in right breast, along with T4N0M0 unresectable non-small cell left lung adenocarcinoma presented to the emergency department (ED) with large volume melena. In the ED, the patient reported recent increase in watery bowel movements prior to this bloody bowel movement. CTA and CT Abdomen/Pelvis showed a necrotic 7 cm mass arising from the transverse colon that had increased in size compared to a CT scan several months prior (Figure 1). She also had extensive metastatic disease throughout the mesentery, adrenal glands, retroperitoneum, and subcutaneous tissues. Gastroenterology was consulted and performed a colonoscopy, revealing an infiltrative nonobstructing colonic mass (Figure 2). The mass was biopsied, and pathology showed adenocarcinoma consistent with triple-negative metastatic mammary carcinoma. After multiple blood transfusions and attempts at non-operative management, surgical consultation was obtained, and she was offered palliative colon resection. During the operation, a large mass in the distal transverse colon and adjacent mesentery was identified. The mass was found to be adherent to the small intestine and stomach, requiring en bloc segmental colectomy, small bowel resection and gastric wedge resection. The patient recovered well from her surgery and her hematochezia resolved. She remained on palliative treatment for her multiple remaining metastases before passing away four months later.

Figure 1 – CT abdomen/pelvis

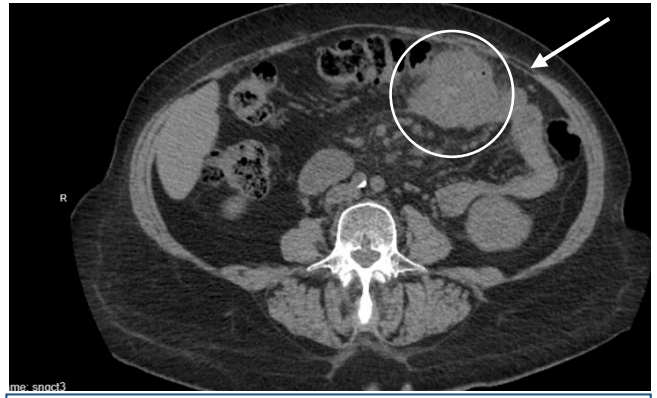

Figure 1: Necrotic mass arising from the transverse colon measuring up to 7 cm. Mesenteric root region necrotic mass measuring 5.0x3.5x4.6 cm, enlarged from previous mass of 4.7x3.1x3.8 cm 2.5 months prior. Numerous additional abnormal masses seen in the mesentery as well.

Figure 2 – Initial colonoscopy

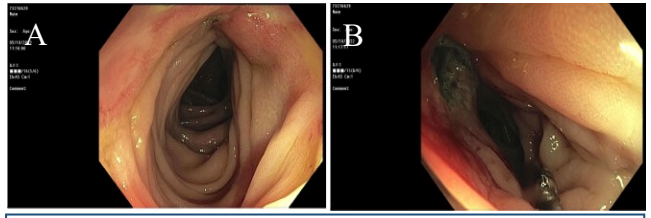

Figure 2: (A) Proximal descending colon mass measuring 8 cm in length. Mass was partially circumferential involving one-third of the lumen circumference. (B) Descending colon mass with necrotic region present.

Discussion

Gastrointestinal metastasis is a rare occurrence in invasive breast carcinoma, with only 4-18% of patients reported to have GI metastasis in known cases of disseminated breast cancer [1,2]. Taal et al. reported 17 cases of colorectal metastasis and found that metastatic lobular carcinoma most often metastasized to the colon when compared to metastatic ductal carcinoma [3]. Patients presented with gastrointestinal metastasis on average 53 months after primary diagnosis of breast cancer, with an average survival time of 16 months [2,3]. However, the GI manifestation were noticed prior to the breast cancer diagnosis, causing diagnosis of a primary GI tumor more likely. In these cases, immunohistochemistry can be useful in distinguishing between primary colon cancers versus breast cancer metastasis. Even though 30-40% of colon cancers can be estrogen receptor positive, a strong expression of progesterone receptors and gross cystic disease fluid protein 15 (GCDFP-15) protein indicates a mammary carcinoma origin [1,3]. Being familiar with the link between newly diagnosed of colon cancer in females can help raise suspicion and indicate a possible underlying breast cancer. Gastrointestinal metastasis of breast cancer can be asymptomatic or symptomatic, mimicking symptoms of a primary gastrointestinal tumor. Patients can present with nausea, dysphagia, abdominal pain, early satiety bowel obstruction, or GI bleed [1,4]. Treatment is typically palliative in nature and may include placement of endoluminal stents, endovascular or endoscopic therapy, or surgical resection. Even with treatment, remissions are common with about 32-53% of patients presenting with recurrent GI tract metastasis after 5 years [1,4].

Conclusion

Intestinal involvement of metastatic breast cancer suggests more widespread metastatic disease and warrants systemic treatment. In patients with a history of breast cancer who present with new colonic gastrointestinal mass or onset of GI symptoms, metastatic breast cancer should be considered.

References

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