Uncommon metastatic site from breast cancer

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Introduction. Breast cancer is one of the most common malignancies in women and the main leading cause of cancer death. The most frequent sites of metastases from breast cancer are bones, lungs, the central nervous system, the liver and soft tissue. Colonic metastases from breast cancer are rare. Case report. We presented a 70-year-old woman with bulky obstructing lesion of sigmoid colon. A physician in charge on our department examined the patient and past history of breast cancer was found up. Surgery was performed with removal of sigmoid colon and three of six lymph nodes were positive. Pathological examination, including immunohistochemical stains, confirmed the diagnosis of metastatic breast cancer to sigmoid colon. The multidisciplinary oncology team suggested postoperative chemotherapy. The patient received four cycles of chemotherapy with paclitaxel followed by anastrozole. On the first control visit no disease activity was detected.

Conclusion. In patients with the past history of breast cancer the symptoms of hematochezia or anemia may indicate colonic metastases. Key words: breast neoplasms; neoplasm metastasis; colonic neoplasms; diagnosis, differential.

Colonic metastases from breast cancer are rare and their nonspecific clinical presentation may be easily mistaken as a second primary colon carcinoma; it may impair the clinical diagnosis and delay the treatment resulting in earlier mortality. Case report. At the beginning of 2010, a 70-year-old woman visited our Institute complaining of hematochezia. The results of blood count test and complete check-up were normal and the result of rectal examination was negative. The findings of...
colonoscopy examination showed circumferential bulky obstructing lesion in sigmoid colon. It was not possible for colonoscope to pass through the stenosis. Analysis of the biopsy material confirmed the presence of adenocarcinoma of the colon (HG3, NG3) (Figure 1). The patient underwent surgery and resection of sigmoid colon with end-to-end anastomosis. The results of pathological examination including immunohistochemical staining, confirmed the diagnosis of metastatic breast cancer to sigmoid colon (CK20-, CK7-, CK8+, CK18+, ER+, PR+). Six lymph nodes were identified and three of them were metastatic. These findings were similar to those of the prior breast cancer specimen (Figures 2 and 3). Cancer cells invaded the whole intestinal wall from mucosa to the serosa and surrounding fat tissue and infiltrated into the posterior wall of the urinary bladder. The multidisciplinary oncology team suggested postoperative chemotherapy. The patient received four cycles of chemotherapy with paclitaxel, followed by anastrozole. The first control visit showed no disease progression.

The patients past medical history was marked by breast exulcerated cancer in her left breast without palpable axillar lymph nodes in 2007. Using core biopsy the following diagnosis was established: ductal invasive carcinoma HG 2 with the invasion of capillaries, lymph ducts, and perineural area. At that time, the patient was treated with four cycles of neoadjuvant chemotherapy (5-fluorouracil, adriamycin, cyclophosphamide), which resulted in partial clinical response. Chemotherapy was followed by left mastectomy and ipsilateral axillary lymph node dissection and the excision of infiltrated region of pectoralis major on June 9, 2008. Histopathological examination of surgical specimen confirmed the presence of grade II invasive ductal carcinoma (4 cm × 3 cm) with skin invasion and 10 lymph nodes without metastases (G2, pT4N0) and the infiltration of muscle and perineural area. Immunohistochemistry tests for estrogen and progesterone receptors showed positive staining for both receptors (Figure 4). There was no evidence of distant metastases at the time of surgery. Multidisciplinary oncology team considered the patient to be at high risk for disease recurrence and suggested further treatment with radiotherapy (TD 50 Gy in 25 fractions) and adjuvant chemotherapy (cisplatin, cyclophosphamide, methotrexate, and 5-fluorouracil) for six months, which was followed with tamoxifen therapy until the beginning of 2010.

Discussion

Metastatic involvement of the large bowel is rare. The incidence of metastatic breast cancer involving the colon is unknown, but an autopsy series reported the frequency of colonic involvement of metastatic breast cancer to be 8%, not including serosal implants. The disease-free interval between primary breast cancer and gastrointestinal involvement varies from synchronous presentation up to 30 years, the median interval between diagnosis and presentation of metastases is six to eight years. The symptoms may vary from asymptomatic abdominal masses to those mimicking ulcerative colitis. Anorexia, hematochezia, and positive fecal occult blood testing are common presenting symptoms. These non-specific findings often mimic other gastrointestinal diseases such as colorectal cancer, inflammatory bowel disease, ischemic colitis and, diverticulitis.
Differentiating primary colon cancer from metastatic breast cancer to the colon may be challenging. In patients with prior histories of breast cancer, second primaries of the gastrointestinal tract are more common than metastatic disease. Immunohistochemistry has aided in differentiating the tumor site of origin. Hormone receptors, such as estrogen and progesterone ones, are utilized to differentiate breast versus gastrointestinal primary cancer, but these receptors may be positive in 20% to 28% of primary gastric carcinomas. The more common antigen markers include cytokeratins (CK) 7 and 20.

In the presented case, the histological subtype of metastatic breast cancer was invasive ductal carcinoma (IDC). Infiltarting lobular carcinoima was found to metastasize more frequently to the gastrointestinal tract, peritoneum, and retropertitoneum than the IDC. Metastatic disease involving the colon may be viewed as a systemic visceral disease, which should be treated with chemotherapy. Pathological analysis and repetition of endoscopy are necessary for the early and accurate diagnosis.

**Conclusion**

Radiologists and endoscopists should pay a special attention to patients with the history of lobular breast cancer and newly identified GI malignancies that may, among other diseases, be the metastases from breast cancer.

**REFERENCES**


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