

Introduction

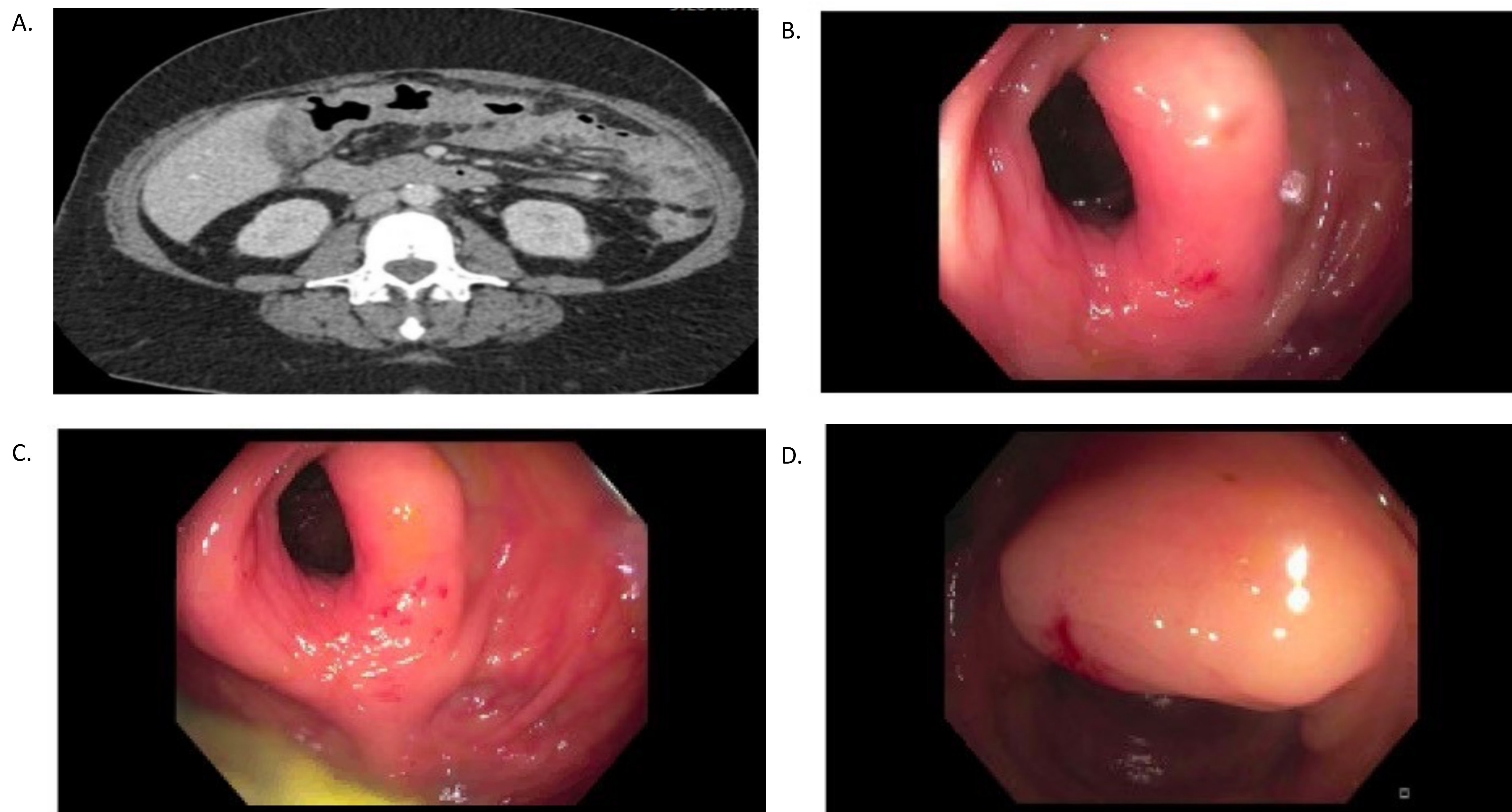
- The most common sites of metastases in breast cancer include bone, liver and lung
- Gastrointestinal tract is a less common site for metastases in breast cancer
- A PubMed literature review from 2015 to 2020 revealed only 32 cases of gastrointestinal metastases of breast cancer origin.¹
- Metastasis to colon was seen in 28% of these cases with an average interval time to diagnosis of 9.43 years after initial diagnosis of breast cancer.

Workup

- CT abdomen/pelvis showed circumferential nodular colonic mural thickening noted at and above the level of the ileocecal junction measuring up to 6.5 cm (Figure A)
- Colonoscopy revealed mild stenosis in the splenic flexure from edema (Figure B,C) along with edema and nodularity of mucosa in the ascending colon (Figure D)

Case Description

Patient is a 56-year-old woman with history of ER+, HER2- invasive lobular carcinoma of the left breast diagnosed in 2009 and peritoneal carcinomatosis since 2017, who underwent diagnostic colonoscopy for chronic diarrhea. The initial computed tomography (CT) scan of abdomen showed an area of thickening near the ileocecal junction measuring 6.5 cm concerning for possible intraluminal mass. Colonoscopy showed moderate stenosis in the proximal and distal ascending colon. Biopsies from ascending colon were positive for ER+, HER2- metastatic carcinoma. This prompted a change in her chemotherapy regimen to Eribulin, designed to target metastatic breast cancer. After changing chemotherapy, CT imaging has shown stability to slight improvement in the thickening of ascending colon.



Discussion

- Most research suggests lobular carcinoma of the breast occurs in 5-15% of all patients with breast cancer, however it is the most common cancer to spread to the gastrointestinal system²⁻⁴
- Of 206 patients with breast metastases to the GI tract, stomach (60%) and esophagus (12%) are more frequent than colonic involvement (11%)⁵
- The endoscopic diagnosis of metastatic breast cancer can be difficult when the biopsy samples are too superficial. For a correct diagnosis, deep biopsy should be performed as the submucosa is involved first by metastasis⁶
- Hormone receptors, specifically E-cadherin, and its loss of regulation may lead to increased likelihood of invasive lobular carcinoma metastasizing to the GI system⁷
- The use of immunohistochemistry staining was vital in differentiating metastatic disease from a primary colonic cancer. Primary GI tumors will often stain positive for CK20 and CEA. Conversely, markers such as estrogen receptors (ER) will be seen in breast cancers but very rarely in GI tumors⁸ Additionally, CK7 may be positive in up to 90% of breast carcinoma cases as opposed to 50%-55% of gastric cancers of primary origin⁹

Conclusions

- Metastatic breast cancer involving the gastrointestinal tract is uncommon and is often underestimated.
- Lobular type breast carcinoma is the most common histological type that metastasizes to the colon.
- Previous studies have suggested that the presence of hormone receptors may facilitate gastrointestinal spread.
- For a correct diagnosis, deep biopsy should be performed. The use of immunohistochemistry staining is vital in differentiating metastatic disease from a primary colonic cancer.
- A better knowledge of gastrointestinal metastases from primary breast carcinoma is warranted because appropriate management may result in longer survival.

References

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