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Case Report

Ileal metastasis masquerading as Crohn's in lobular carcinoma of the breast, years after initial treatment and review of literature

Altaf G. Haji*, Shashikanth Vijayaraghavalu, Naveen Sivakumar, Sadaf Zehra, Kalimuthu Marimuthu, Lourdusamy Arul Selvam, Bala Piramanayagam

Department of General and Gastrointestinal Surgery, George Elliot NHS Hospital, England

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***Correspondence:**
Dr. Altaf G. Haji,
E-mail: altaf.haji2@nhs.net

ABSTRACT

Gastrointestinal (GI) metastases masquerading as Crohn's years after treated lobular carcinoma of breast is a diagnostic challenge. In some cases, the interval between the primary breast cancer and gastrointestinal metastasis is so long (3-20 years) that the medical records for diagnosis including history might be missed. The susceptibility of invasive lobular cancer (ILC) to metastasize to gut is many times greater than invasive ductal carcinoma (IDC) (4.5% versus 0.2%, respectively). We report the case of lobular breast carcinoma metastasizing to the terminal ileum and ileocecal junction 7 years following treatment of right sided lobular breast cancer in 60 plus-year-old women. Radiological and endoscopic findings can be difficult to distinguish from inflammatory bowel disease or from primary carcinoma of the GI tract. Histopathological and immunochemistry assessments usually help in reaching the diagnosis. A high index of suspicion and awareness regarding such presentations can help in making an accurate diagnosis and subsequent treatment planning.

Keywords: Lobular cancer breast, Gastrointestinal metastasis, Inflammatory bowel disease

INTRODUCTION

Invasive lobular carcinoma (ILC) accounts for almost 15% of all breast carcinomas.[1] Metastatic breast cancer typically metastasizes to the lungs, bones, brain, and liver, but occasionally can affect the gastrointestinal tract.[2] Isolated gastrointestinal tract (GIT) metastasis of ILC is extremely rare and at least 60% of ILC patients with metastases have had concurrent bone deposits and, less frequently, other organ metastasis.[3,4] The pattern of metastasis is often diffuse and infiltrative. In past the diagnosis of GIT metastases of ILC was based entirely on histological evaluation and now evaluation with immunohistochemical (IHC) methods plays great role.[5]

In published breast cancer patient series, when the surviving patients are compared to those deceased and autopsied, a significant difference was observed in the frequency of GIT metastasis. This suggests that clinicians failed to notice the GI tract metastases during the follow-up of these patients.[5]

CASE REPORT

60 plus old female presented to surgical take with a 2–3-week history of intermittent abdominal pain in lower abdomen associated with loose stools and nausea. Her past medical history comprised of right mastectomy for breast cancer in 2015 and previous Laparoscopic cholecystectomy for gall stones. She was evaluated with blood tests and contrast enhanced computed tomography (CT) scan abdomen and pelvis. Inflammatory markers were raised, and CT scan abdomen and pelvis showed an abnormal and thickened appendix. There was adjacent free fluid and some fat stranding, and the findings were suggestive of a recent contained rupture of appendix (Figure 1).

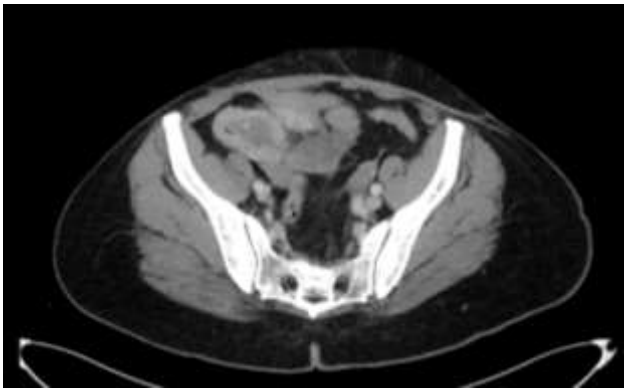

Figure 1: CT scan showing abnormally thickened appendix with suspicion of contained rupture.

She was treated for appendicular abscess with IV antibiotics and IV fluids. She showed improvement and after a period of stable observations was discharged with appropriate safety-netting advise. On discharge she was planned to have colonoscopy in few weeks' times to assess right side of colon for possibility of inflammatory bowel disease or any other bowel pathology. She then was readmitted few times with recurrent attacks of abdominal pain, and this delayed colonoscopic examination. Finally, she had colonoscopy and findings were - inflamed proximal ascending colon, caecum and ileocecal value. The appendicular orifice area looked healthy. IC valve appeared distorted and did not open for intubation (Figure 2).

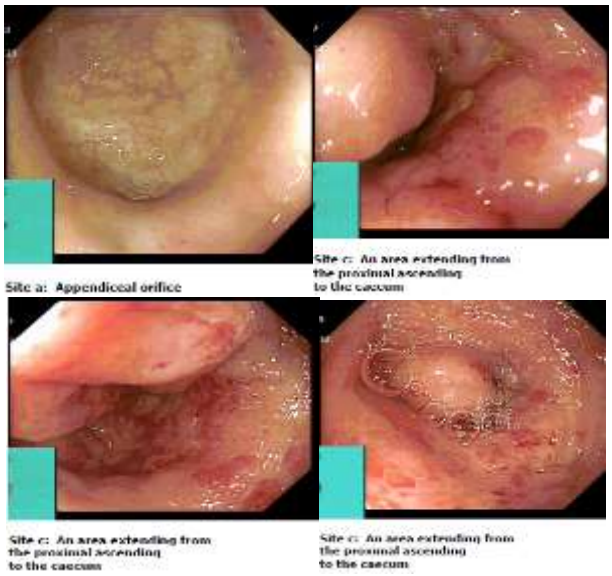

Figure 2: Colonoscopy showing appendicular orifice and ileocecal valve.

She also had MRI small bowel and findings were suggestive of possible inflammatory bowel disease (Figure 3).

While awaiting histopathology results of biopsies taken, she re-presented to ED with features of acute intestinal obstruction and same was confirmed on CT images (Figure 4).

Figure 3: MRI scan showing persistent thickening of ileocecal region accompanied by visible ileocolic lymph nodes.

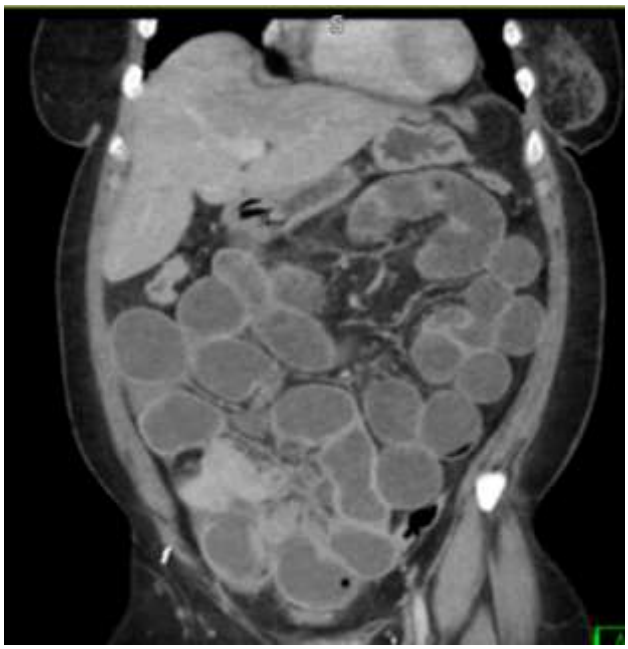

Figure 4: CT scan showing acute intestinal obstruction.

In view of this she underwent emergency exploratory laparotomy and findings were as follows.

Ascitic fluid limited to pelvis, plastered ileocecal mass lesion involving distal ileum with puckering /cord formation at mesenteric border of proximal ileum (typical of lymphatic permeation), Significant nodal mass over

ileocolic vessels and nodularity in few parts of omentum. She underwent palliative Right hemicolectomy plus infracolic omentectomy with primary side to side stapled anastomosis (Barcelona technique). She recovered very well.

The final histopathology showed it to be tumour mass of metastatic lobular carcinoma of breast. It was ER 8/8 positive; PR 8/8 positive and Her-2 FISH negative (Figure 5).

She had staging CT scan of thorax, and it was reported as normal. Then she had MRI spine which revealed extensive metastasis in cervical and lumbar spine. Finally MDT decision was to treat her with palliative intent.

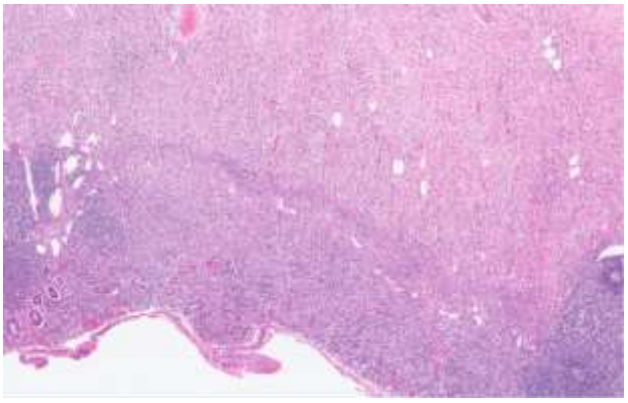

Figure 5: Diffuse infiltration of the bowel wall by single cells and cords of cell.

DISCUSSION

The gastrointestinal metastases from breast cancer are rare and can occur many years after the curative treatment of primary tumour. Among GI metastases the most afflicted sites are the stomach and small intestine, with comparably fewer reports of dissemination to the colon and rectum.[6] Borst and Ingold in their study of 2604 cases of breast cancer over an 18-year period reported GI metastases in only 17 cases (0.7%).[7] A review of 12001 cases by McLemore et al showed that GI metastases from primary breast carcinoma were as rare as 73 cases, with a mean interval from diagnosis of 7 years.[8] GI metastases occur more commonly in invasive lobular cancer (ILC) than invasive ductal carcinoma. The reason for this increased risk of GI spread is uncertain but could be related to loss of the cell–cell adhesion molecule, E-cadherin, in these tumours.[9]

Symptoms of metastatic disease to the GI tract may be non-specific like vague abdominal pain or gastroenteritis like symptoms or symptoms of inflammatory bowel disease or it can present as acute or subacute small or large bowel obstruction.

Schwarz et al reported a median interval between breast cancer and the GI metastases of 6 years (range 0.25–12.5 years) and McLemore et al found a median interval of 7 years.[8,10]

Though quite rare, metastatic breast cancer presenting like Crohn's disease has been reported by Rubin et al, Penn et al and Nazareno et al. Accordingly, it is well documented that metastatic breast carcinoma can clinically and radiologically resemble Crohn's disease and same was evident in our case.

Gross endoscopic features like mucosal inflammation around terminal ileum also favour features of inflammatory bowel disease and another difficulty faced is that endoscopic biopsies can be negative in more than 50% of cases and the reason for this is the metastatic tumour deposits can invade from the outer serosal aspect of the bowel and might not extend into the mucosa or submucosa- areas typically sampled during endoscopy.[11] Colorectal metastases from lobular breast carcinoma can demonstrate nodular and cobblestone-like thickening of the mucosa that can mimic Crohn's disease.[12]

Due to the relatively small number of reported cases, there remains a paucity of guidelines for managing such cases. Diagnosis of GI metastases in the context of present or previous breast cancer primarily requires a high degree of suspicion, particularly in patients with a history of lobular breast carcinoma. Endoscopic examination with tissue biopsies for histopathological examination provide the final diagnosis that can be confirmed with immunohistochemistry analysis.

Treatment usually comprises chemotherapy, endocrine therapy or both combined and it has been reported that remission occurs in 32–58% of patients.[13] Surgical intervention may be reserved for emergency presentations of perforation or haemorrhage in selected isolated lesions or in presentations of acute bowel obstructions like in our case. Palliative surgery was not shown to result in an increased overall survival.[14,15] The overall survival after diagnosis of GI metastases from a primary breast cancer is poor with few patients surviving beyond 2 years, although reports of survival of up to 9 years have been published.[16]

CONCLUSION

This case highlights a rare presentation of acute small bowel obstruction due to gastrointestinal (GI) metastases from lobular carcinoma of breast masquerading as Crohn's. Additionally, it also demonstrates a unique radiological finding of metastatic lobular breast cancer resulting in an enhancing, thickened terminal ileum on a contrast CT study that mimics Crohn's disease. It also highlights the fact that gross endoscopic features like mucosal inflammation around terminal ileum can be misleading as they favour inflammatory bowel disease. It is also established fact that endoscopic biopsies can be negative in more than 50% of cases as deposits invade from serosal aspect of bowel and may not extend to mucosa or submucosa. All these points reflect that a high

index of suspicion and awareness regarding such presentations is key towards roadmap in evaluating such cases so to make an accurate diagnosis and subsequent treatment planning.

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