

CASE NOTE

Breast cancer infiltration by cardiothoracic surgery

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Carcinoma of the breast is the most common site-specific cancer in women and is one of the leading causes of death among women. Concomitant coronary artery disease with breast carcinoma is not an infrequent clinical entity. In the literature, there are reports of simultaneous surgical therapy for both coronary artery disease and breast carcinoma.¹⁻³ Median thoracotomy for coronary artery bypass grafting (CABG) could be a risk for concomitant medially localized breast carcinoma, as surgical borders within the mass of the breast carcinoma would spread tumour cells throughout the area. We present the case of a patient with breast carcinoma and cancerous infiltration along the thoracotomy incision of a CABG.

CASE REPORT

A 67-year-old woman presented to our clinic with pain of 4 weeks' duration and a mass in the right breast. She thought the pain was due to her thoracotomy incision for CABG, which she had undergone 9 months previously. Ten days before presenting to our clinic, she underwent a trough-cut biopsy and received a diagnosis of invasive ductal carcinoma.

Physical examination revealed a 6-cm tumour mass in the right inferior medial quadrant of the breast, neighbouring the sternum. On the medial aspect of the tumour mass, on the sternum, there was thoracotomy incision under which there was abundant granulation and sclerosis. Axillary examination revealed a mobile lymph node 2 cm long.

Mammography findings demonstrated an irregular 3.5×3 cm mass in the middle lower quadrant of the right breast and a medial asymmetric density with multiple pleomorphic microcalcifications (Fig. 1). Ultrasonography

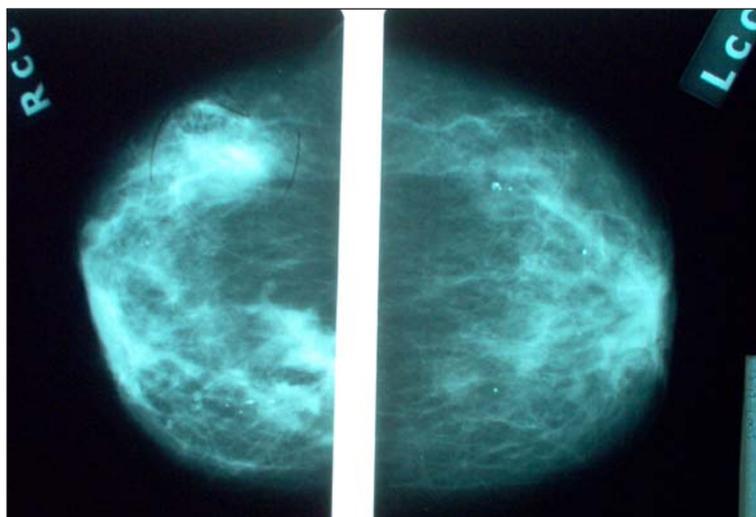


Fig. 1. Mammography of the patient revealed an irregular 3.5×3 cm mass and asymmetric density with multiple pleomorphic microcalcifications.

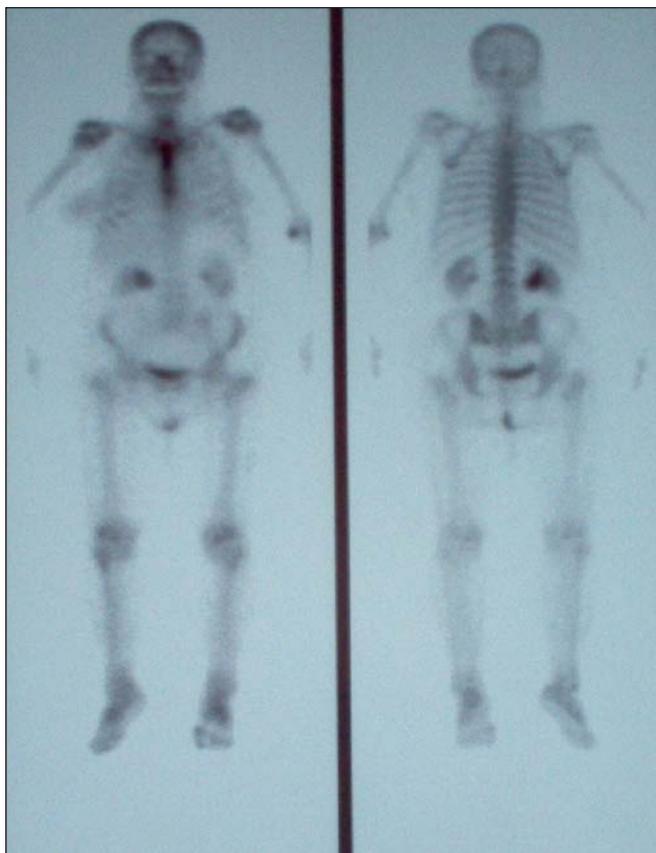


Fig. 2. Whole-body bone scintigraphy showed high activity on the sternum and minimal activity on the soft tissue of the right breast.

findings included a hypoechoic solid 3.5×2 cm mass at the 4 o'clock position of the right breast. Together, these examinations revealed lymphadenopathies, the largest of which was 3 cm in diameter.

After she had been informed of her carcinoma and treatment choices, the patient was admitted to hospital. We examined possible metastatic sites. A radiograph of her chest showed blurred density on the sternum due to sternotomy, but we found no suspicious pulmonary metastases. Results of her abdominal ultrasound were normal. Whole-body bone scintigraphy showed high activity on the sternum and minimal activity in the soft tissue of the right breast (Fig. 2). We considered these findings to be degenerative and due to the CABG. We planned a modified radical mastectomy.

Intraoperatively, we found an abundant, edematous, semisolid mass under the granulation of the thoracotomy incision while dissecting the medial aspect of the upper and lower flaps. Results of the frozen biopsies taken from the 2 flaps revealed cancerous features. Dissection continued over the right clavicle to the supraclavicular fossa on the upper side and to the abdominal rectus fascia on the lower side. Dissection on the pectoralis major muscle revealed suspiciously edematous, fragile tissue. Because we observed cancerous features in the frozen biopsy from the pectoralis

major muscle, the surgical plan changed to radical mastectomy.

The histological report revealed a grade 3 tumour mass of invasive ductal carcinoma with invasion of the pectoralis major muscle. The medial borders of the upper and lower flaps contained invasive ductal carcinoma. We planned 6 cycles of chemotherapy (taxotere, adriamycin and cyclophosphamide, or TAC), radiotherapy and follow-up with short intervals.

DISCUSSION

Carcinoma of the breast and coronary artery disease are 2 distinct diseases, but surgery is one of the treatment choices for both of them. The incidence of breast cancer rises after age 40, peaking after age 70.⁴ The incidence of coronary artery disease also rises with age, as does the necessity for CABG. During this surgery, the sternum is divided such that the medial aspect of the breast is within the margins of the surgery area.

In the course of CABG, primary or metastatic cancer may be encountered. Guo and colleagues⁵ reported 3 cases with incidental findings of cancerous internal thoracic lymph nodes while mobilizing the internal thoracic artery for CABG. Of these 3 male patients, 1 was found to have metastatic carcinoma of the breast, whereas the other 2 were discovered to have previously undiagnosed lymphomas.

We report the case of a woman who had undergone CABG and was admitted afterward with breast carcinoma. Clinical, operative and histological examinations raised the suspicion that the breast carcinoma existed at the time of the CABG. Although there was no mammography screening before the surgery, the location of the breast carcinoma, the thoracotomy incision for CABG and the histological diagnosis of the borders of the mastectomy all pointed to the possibility of the spread of the primary breast carcinoma. We found no reports in the literature of primary breast lesions found during sternum division.

Therefore, if cancer is proven or suspected, thoracotomy with appropriate resection is the treatment of choice in most patients with breast cancer, even at the initial appearance of the breast cancer.

Our patient's case reminds us that breast cancer patients can have simultaneous health problems and that the rising incidence of breast cancer with longer life expectancy increases these kinds of problems. As in our patient's case, it should be noted that breast cancer can spread locally due to the sternal incision of CABG, and the increased breast cancer mass in the follow-up period can be mistaken for the granulation tissue of the wound for a long period of time. We suggest that patients who are candidates for thoracic surgery or CABG should at least have a physical examination of the breasts preoperatively. Patients at high

risk for breast cancer need more attention, such as a mammography or general surgery consultation.

Competing interests: None declared.

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