Bilateral synchronous locally advanced carcinoma of the breast in a woman over 100 years old

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Introduction

Breast cancer is the most common cancer among women worldwide regardless of their age. Bilateral breast cancer is a rare presentation, with primary synchronous breast cancer occurring in about 0.2–3% of all newly diagnosed cases (Chaudary et al, 1984). This article presents the case of a woman with locally advanced bilateral breast cancer with different immunohistochemical markers, who underwent emergency surgery to treat bleeding from the tumour in the left breast. She recovered well and managed adequately after that with hormonal treatment. She died 18 months later of a non-cancer cause of death.

Discussion

Despite the high incidence, little is known about the characteristics of breast cancer, treatment choices and survival among the oldest women (Schonberg et al, 2010). Few randomised

Case report

A woman who was over 100 years old had noticed bilateral breast formations 2 years earlier, which had gradually increased in size over time. Ulceration and periodic minor bleeding had occurred from the left breast in the last 4 months which was treated locally. This had intensified in the last few days, becoming serious in the 12 hours before her admission to hospital (Figure 1). On physical exam the right ulcerous mass, in the upper outer quadrant of the breast, was around 50 mm in diameter with skin invasion. The upper outer quadrant of the left breast with overlying skin was completely consumed by a bleeding lesion around 60 mm diameter. In the axillary region single enlarged lymph nodes were found bilaterally.

The ulcerations were treated initially with haemostatic gauze. Ultrasonography of the breast showed a lobulated uncapsulated solid formation infiltrating the skin, over 38 mm diameter, on the right and a formation with heterogeneous structure, veiled outlines and infiltration of the skin, over 40 mm diameter, on the left. Axillary bilateral lymphadenopathy with intense vascular signals and impaired stucture and calibre of the lymph nodes was noted.

Serum tumour marker CA15-3 levels were significantly elevated at 294 U/ml (upper limit 32.4 U/ml), and carcinoembryonic antigen (CEA) levels were slightly elevated at 5.8 ng/ml (upper limit 5 ng/ml). She had hypertension and ischaemic cardiac disease, and no family history of breast or ovarian cancer.

Haemostasis on the left side was unsuccessful even after tamponade and administration of haemostatic drugs, so the patient was taken to the operating room. As her general condition was worsening rapidly and she was anaemic (haemoglobin level 79 g/litre), radical surgery was not an option. Bilateral incisional biopsy was carried out under local anaesthesia for further histological evaluation. Definitive haemostasis was achieved with bipolar coagulation and interrupted single sutures.

Histopathology confirmed that she had invasive ductal carcinoma of the right breast, moderately differentiated (G2), hormone receptor negative, HER2 positive, and invasive ductal carcinoma, G2, hormone receptor positive and HER2 negative of the left breast.

After discussing the case with the multidisciplinary oncology team the patient started hormonal therapy with anastrozole on the 20th postoperative day. This achieved different levels of tumour reduction on each side because of the different biological cancer markers. Six months after starting treatment, the left breast cancer was rated as clinical partial response with diminishing ulceration and no bleeding and the right breast cancer was rated as clinical stable disease evaluated by RECIST (Therasse et al, 2000).

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Figure 1. Appearance of bilateral breast cancer on hospital admission after primary tamponade.

controlled trials of breast cancer treatments have included women aged 80 years or older, and most observational studies in patients of this age are limited by small sample sizes (Hebert-Croteau et al, 1999; Gajdos et al, 2001; Bouchardy et al, 2003). Older patients are at a greater risk of side effects and treatment-related mortality, but undertreatment at any age is linked to poor outcomes. If well tolerated, maintenance treatment, especially endocrine therapy, may be continued on a long-term scale or lifelong if the patient remains with no evidence of disease (Sedloev et al, 2019).

Some studies suggest that bilaterality is more commonly seen in cases with HER2 overexpression (Kheirelseid et al, 2011).

This case was a diagnostic and therapeutic challenge given the patient's age and the limited treatment recommendations. The patient presented with synchronous locally advanced bilateral breast cancer with different tumour biology: the right breast cancer was hormone receptor negative and HER2-positive, while the left breast cancer was hormone receptor positive and HER2-negative. Management was based on the general condition and age of the patient, her consent to undergo hormonal treatment and the immunohistochemical characteristics of the individual tumours.

Hormone receptor and HER2 status, and breast cancer subtype, are associated with different mass reduction effects of neoadjuvant chemotherapy and different pathological responses. The difference in cancer features could point to a correlation between tumour biology and response to therapy.

A similar case of synchronous bilateral breast cancer with different pathological responses to neoadjuvant chemotherapy in a 60-year-old patient was reported by Hayashi et al (2013). To the authors' knowledge this is the only published case of this type of breast malignancy in a patient over 100 years of age achieving long-term overall survival of 18 months after treatment.

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Learning points

- Treatment of locally advanced ulcerous bilateral breast cancer was a challenge because of the patient's age.
- Patients with comorbid conditions require individualised treatment planning based on the tumour factors of each lesion.
- In multiple breast cancer with different characteristics, precise diagnosis and appropriate management helps to improve longevity with an improved quality of life.

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