INTRODUCTION

The incidence of bilateral breast cancer has been reported to range from 0.4% to 14%, and it increases gradually as a result of improved early detection capabilities and longer survival times. We report a rare case where the bilateral breast cancers occurred as a metachronous bilateral breast cancer with bilateral recurrences, detected by mammography, and the rapid growth of tumor that manifested as microcalcification and skin thickening within 3 months.

CASE REPORT

In October 2009, a 51-year-old female complained of swelling in her right breast. She had a history of a bilateral partial mastectomy (PM) due to a previous occurrence of the bilateral breast cancer. The patient's past medical history was as follows. In August 1999, she underwent a right upper medial PM for an invasive ductal carcinoma (IDC). Following the surgical procedure, she received radiotherapy. Annual follow-up mammograms and ultrasound revealed no suspicious lesions until 2003. In October 2004, she underwent a left upper outer PM, after a mixed tubular carcinoma was discovered during the surveillance. For five years after the surgery, no evidence of recurrence or metastatic lesions was observed during the follow-up examinations, until newly developed microcalcifications were found in the right breast in 2009.

Compared to the mammographic findings from July 2009, which was only 3 months prior, this mammography showed increased pleomorphic microcalcification with segmental distribution in the right upper medial breast, which extended to the right subareolar area, and the skin thickening or trabecular thickening, in the right medial breast (Fig. 1). These microcalcifications were categorized as Breast Imaging-Reporting and Data System (BI-RADS) category 4b (4). Stereotactic vacuum-assisted biopsy was recommended. However a punch biopsy of the skin in the periareolar area was performed based on the physician's discre-
Bilateral Metachronous Breast Cancer with Bilateral Recurrences

During surveillance after the right MRM in April 2011, the left mammogram was compared to mammography performed only 6 month prior, which was October 2010. The left mammogram showed an increased pleomorphic microcalcification with segmental distribution in the left upper central quadrant, assessed as BI-RADS category 4c (Fig. 2) (4). Based on the patient's preference, she underwent a left MRM without biopsy. The final pathologic review revealed multifocal IDC.

**DISCUSSION**

The incidence of bilateral primary breast carcinoma has been gradually increasing as a result of improved early detection capabilities and longer survival times (5). The incidence of bilateral breast cancer has been reported to range from 0.4% to 14% (1, 2). The prevalence of synchronous bilateral cancer is approximately 1–3%, and the prevalence of metachronous breast cancer is 5–7% (6). The risk factors for bilateral breast cancer are variable. The heredity in breast cancers is the most significant factor for an increased risk of developing bilateral breast cancer. Other factors associated with an increased risk of bilateral breast cancer include familial breast cancer, radiation exposure at young age, lobular carcinoma in situ, lobular invasive carcinoma, and multicentric cancer (7). Among women of age less than
45 years at the time of irradiation, the overall relative risk of contralateral breast cancer was increased by 1.6 (95% confidence interval, 1.1-2.4) times after the radiation therapy (8). A diagnosis of the primary breast cancer at a young age is also associated with an increased susceptibility for bilateral breast cancer. This is mainly due to the increased likelihood of living long enough to develop a metachronous breast cancer, with twenty-five year cumulative risk of 6.9% (8). Our patient had the above-mentioned risk factors—primary breast cancer and radiation exposure at a young age—for bilateral breast cancer.

Takahashi et al. (1) reported that the median period, between the development of the first and second primary carcinomas in metachronous cases, was 113.0 months with both 5 and 10 years of disease-free survival rates as 65.0%. Our case of metachronous bilateral breast cancer had a disease-free survival time of 62 months. This patient had undergone a bilateral partial mastectomy, and her personal history of breast cancer placed her at high risk for recurrence. The bilateral recurrences after bilateral partial mastectomy, manifested as microcalcifications, developed in 3 months in the right breast and 6 months in the left breast. She has received continuous surveillance after the surgery. Cowan et al. (9) suggested that the rapid tumor growth is associated with the failure to detect breast cancer by mammography. However, in the present case, we immediately detected suspicious microcalcifications on mammography. The short-interval mammography, of less than 6 months after breast-conserving treatment, has not previously been reported. In our case, as the patient complained of discomfort and swelling in her breast, probably due to the very rapid growth of tumor, a mammogram was performed only 3 months after the previous mammogram.

The effective trials to detect contralateral metachronous breast cancer, using various modalities besides mammography, have been done (10). Robertson et al. (10) reported that MRI has a higher diagnostic value than the surveillance mammography, in the women previously treated for primary breast cancer.

Herein, we report a case of bilateral metachronous breast cancer with ultimate bilateral recurrences. Our case suggested that the primary breast cancer and radiation exposure at a young age might be associated with an increased risk of the bilateral breast cancer.

REFERENCES

양측성 재발을 보인 후시성 양측성 유방암: 증례 보고 및 문헌 고찰

박소현1 · 손유미1 · 김은경2

양측성 유방암의 빈도는 0.4~14%로 보고되고 있으며 조기진단과 생존율의 향상으로 점차 증가하고 있는 추세이다. 본 증례는 유방촬영술에서 발견된 양측성 재발을 보인 후시성 양측성 유방암의 경우로서 3개월 사이에 미세석화와 피부 두꺼워짐을 동반한 빠른 종양의 성장을 보인 드문 예이다.

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