

Case Report

## Ductal Carcinoma *in situ* in a 19-Year-Old Woman

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### ABSTRACT

A 19-year-old Japanese woman complained of a tender lump in the right breast. Physical examination revealed a well-demarcated, movable mass, 15 mm in diameter, in the lower outer quadrant of the right breast. The patient had no family history of malignancy. Mammography revealed a uniform tumorous lesion in the right breast but neither calcification nor spiculation in either breast. Ultrasonography suggested intraductal papilloma. Excisional biopsy of the tumor of the right breast revealed ductal carcinoma *in situ* (DCIS) with a positive tumor margin. Wide excision was then performed to remove the residual tumor, and a surgical margin greater than 10 mm was obtained. The patient remains well and cancer-free as of 3 years after surgery without additional treatment. (Jikeikai Med J 2008 ; 55 : 33-6)

Key words : breast cancer, ductal carcinoma *in situ*, young woman

### INTRODUCTION

Breast cancer is becoming more prevalent in Japan but remains rare in women younger than 20 years. We present a 19-year-old woman with ductal carcinoma *in situ* (DCIS).

### REPORT OF A CASE

A 19-year-old woman with a tender lump in the right breast visited Kanagawa Prefectural Atsugi Hospital. She had neither a personal history of disease, including neoplastic disease, nor a family history of malignant tumors. Physical examination revealed an elastic, well-demarcated, freely movable lump with a smooth surface in the outer-lower quadrant of the right breast. Neither dimpling nor nipple discharge

was observed. The mass was 15 mm in diameter and 30 mm from the nipple. Lymph nodes were not palpable in the right axillary fossa or the right supraclavicular fossa. Results of routine blood examination were normal. Levels of two tumor markers (carcinoembryonic antigen and CA-15-3) were within normal limits. Mammography revealed no masses or calcification (isodensity). Ultrasonography exhibited a lobulated, hypoechoic lesion, 10 mm in diameter, with clear demarcation. The lesion was provisionally diagnosed as an intraductal papilloma (Fig. 1). Mastopathy was not found on the basis of breast tissue.

To confirm the diagnosis, excisional biopsy was performed under local anesthesia. Histopathological examination of the specimen, cut in five slices, revealed widespread ductal proliferation in expanding

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Fig. 1. Ultrasonography demonstrates a lobulated, hypoechoic lesion, 10 mm in diameter, with a clear margin (arrow).

ducts with a cribriform pattern and bridging (Fig. 2a, b). The diagnosis was DCIS, non-comedo type, 16 mm in diameter with positive margins. The tumor was positive for both estrogen receptors and progesterone receptors but negative for HER-2/neu. Additional wide excision (wedge-shaped excision of one-fifth of the breast) was performed, and a surgical margin greater than 10 mm was obtained. No residual DCIS was observed in the specimen. The shape of the breast was largely preserved despite excision. No additional treatment was considered. The patient remains well and cancer-free as of 3 years after surgery without additional treatment.

#### DISCUSSION

Breast cancer is extremely rare in patients younger than 20 years. Electronic database searches of "PubMed," developed by the National Center for Biotechnology Information (NCBI) at the National Library of Medicine (NLM), and of "Ichushi Web,"

supported by NPO Japan Medical Abstracts Society, were negative for breast cancer, except for "secretory breast cancer," in patients younger than 20 years<sup>1-3</sup>.

The diagnosis of DCIS was unexpected by both the patient and our medical staff. In fact, DCIS is extremely rare in patients 30 years or younger, with an incidence of 0.8% in the English-language literature<sup>4</sup>. Furthermore, two reviews of DCIS mentioned no patients younger than 20 years<sup>5,6</sup>. To our knowledge, our patient is the youngest with DCIS ever reported.

Although mastectomy is considered curative for DCIS<sup>7</sup>, it has not been compared with breast-conserving therapy in a randomized trial in patients with DCIS. Therefore, the necessity of whole-breast treatment for DCIS remains controversial. Also controversial is the need for additional treatment, such as irradiation and hormone therapy. According to data from the National Surgical Adjuvant Breast Project (NSABP) B-17 trial, radiation is important in breast-conserving surgery for DCIS<sup>8</sup>. In an analysis by Silverstein et al., in patients with DCIS, the rate of local recurrence was comparable between wide excision (with a 1-cm safe margin) and wide excision with radiation<sup>9</sup>. Furthermore, the NSABP B-24 trial has shown that tamoxifen after wide excision and irradiation increases the 5-year disease-free survival rate<sup>10</sup>. In contrast, of 274 patients with DCIS initially treated with breast-conserving surgery and definitive irradiation, 42 had local failure<sup>11</sup>. Other studies have reported rates of local failure after breast-conserving surgery irradiation of 17% to 19%<sup>9,12</sup>. A review of these trials by Motomura et al. has found that wide excision, including additional treatments, is safe for DCIS<sup>13</sup>.

Although breast cancer is diagnosed at younger age in patients with BRCA-1 mutation than in patients with sporadic breast cancer<sup>14</sup>, such kind of article has not focused on the relationship between DCIS and hereditary or familial disease. In our patient, genetic tests, including a test for BRCA-1, were not performed because her family refused.

The psychosocial effect of the disease and its treatment is an important consideration when caring for young women with breast cancer<sup>15</sup>. Younger

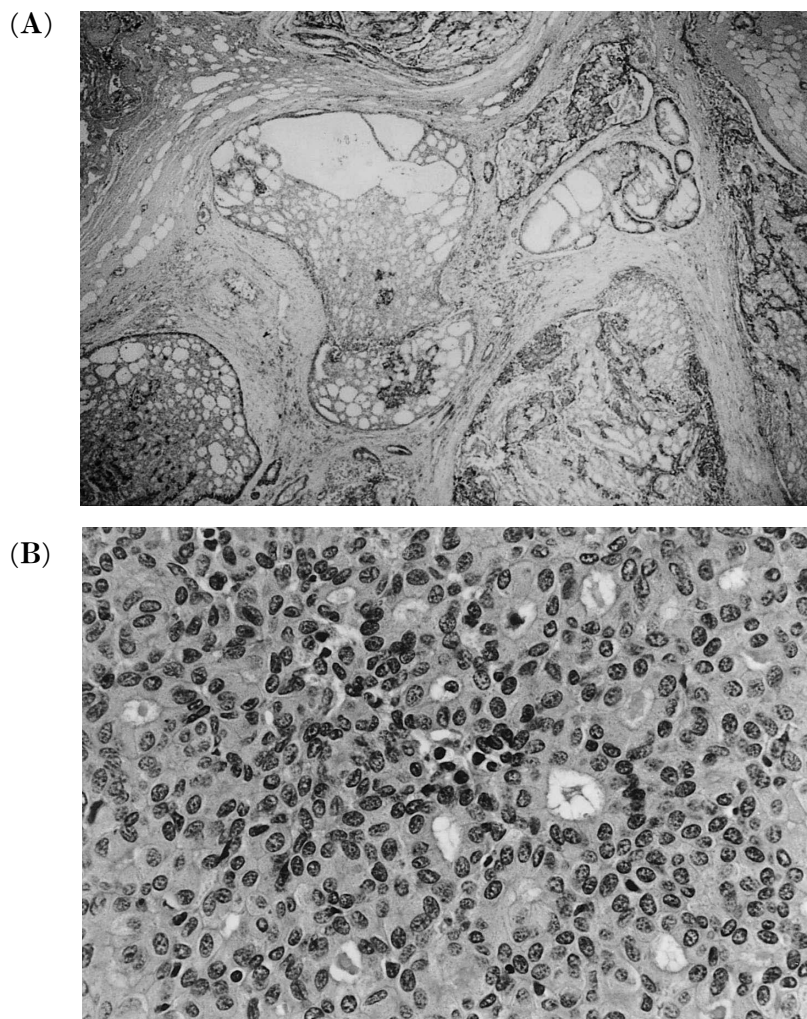


Fig. 2. Photomicroscopic view. The histopathological diagnosis was DCIS. Widespread ductal proliferation in expanding ducts in a cribriform pattern and bridging are shown. (A) Low-power view ( $\times 40$ ); (B) higher-power view ( $\times 400$ ).

women experience a higher level of emotional distress and have more difficulty accepting the diagnosis of breast cancer than do older women<sup>16,17</sup>.

Although breast-preserving surgery is being performed more frequently for DCIS and irradiation is important, we had difficulty determining which of the treatments described above was the most appropriate for this very young patient. In spite of lengthy consultation, the patient and her family did not select any adjuvant therapy. The patient is doing well without recurrence after 3 years, and careful long-term follow-up is essential.

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