Male Breast Cancer with Nipple Erosion:
A Case Report

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A 78-year-old man consulted our hospital after experiencing nipple discharge although there was no pain or itching. A firm tumor with irregular surface was palpable at the right nipple. No swelling of axillary lymph nodes was noted. The levels of tumor markers, carcino-embrionic antigen and carbohydrate antigen 15-3, were within a normal range. Mammograms showed a tumor shadow with spicula and microcalcification. Computed tomography (CT) of the right breast indicated no invasion of the tumor into the right major pectoralis muscle. Chest and abdominal CT and systemic bone X-ray showed no evidence of distant metastasis. Diagnosis following biopsy was ductal carcinoma of the breast. A simple mastectomy was performed in November 1997. The cut-section was composed of a white-color solid mass. The values of estrogen and progesterone receptors were 110 fmol/mg and 270 fmol/mg, respectively. As an adjuvant therapy, tamoxifen at a dose of 20 mg/day was administered for 2 years and 10 months after the operation. There have been no recurrence or metastasis of breast cancer for 5 years after the operation. (Kitakanto Med J 2003; 53: 299–302)

Key words: Male breast cancer, Nipple discharge, Nipple erosion, Simple mastectomy, Antiestrogen

Introduction

Male breast cancer is an uncommon cause of breast enlargement in the adult male. Of all malignant breast cancers, fewer than 1% occur in male patients. We encountered a rare case of male breast cancer with nipple erosion caused by the invasion of cancer cells. We present the case with a review of the literature.

Case Report

A 78-year-old male complained of right nipple erosion and bloody nipple discharge. The patient consulted Matsuida Hospital in October 1997. A firm, irregular surface tumor with nipple erosion, 2.5 cm in size was located in the right nipple and subareola (Fig. 1). The patient felt neither pain nor itching from the tumor. The tumor was not fixed to the major pectoralis muscle, and the axillary lymph nodes were not palpable. Mammograms revealed a tumor shadow with spicula formation (Fig. 2). Computed

Fig. 1 Local findings showing right nipple erosion and nipple deformity.
tomography (CT) identified an irregular mass with no fixation to the major pectoralis muscle. The result of stamp cytology was atypical (class IIIb). An incisional biopsy in order to obtain an accurate diagnosis provided evidence that the histopathological diagnosis was invasive ductal carcinoma. There were no Paget’s cells. Chest and abdominal CT showed no evidence of distant metastases. Systemic bone scintigraphy revealed no evidence of metastases. The disease was classified as T4bN0M0, Stage IIIB breast cancer. Laboratory data including growth hormone (GH), prolactin (PRL), ACTH, and estrogens were within normal ranges, and tumor markers such as carcino-embryonic antigen (CEA) and carbohydrate antigen 15-3 (CA15-3) were also within normal ranges. HCV antibody was positive, but hepatic function was nearly normal.

The patient has complained of right hemiplegia due to intracerebral hemorrhage since June 1984, and has suffered from pneumoconiosis with pulmonary dysfunction. Taking these complications into consideration, a simple mastectomy was selected with local anesthesia in November 1997. There was no invasion to the major pectoralis muscle. The resected specimen indicated a solid tumor 2.0 cm in size with infiltration into the nipple (Fig. 3). The pathological diagnosis was solid-tubular carcinoma (Fig. 4). The surgical margin was negative and there was no finding of gynecomastia. The values of estrogen receptor (ER) and progesterone receptor (PgR) were 110 fmol/mg protein and 270 fmol/mg protein, respectively. The patient received postoperative adjuvant therapy with tamoxifen at 20 mg per day for 2 years and 10 months. Tumor markers have been within normal ranges, and the patient has been free from recurrence for 5 years after the surgery until the patient died of gastric bleeding.

**Discussion**

Male breast cancer is a rare occurrence among breast cancers, and is usually observed in the subareola. In the present case, a tumor with nipple erosion was located in the nipple and subareola. Biopsy of the nipple failed to show Paget’s cells, and nipple erosion was histologically confirmed to be stromal invasion of breast cancer cells into the nipple. Nipple erosion is usually accompanied by Paget’s disease, ductal spreading of breast cancer, and stromal invasion. Paget’s disease of the male breast was reported, however, most nipple erosions were induced by ductal spreading or stromal invasion. Male breast cancer usually develops in the subareolar area, and is rarely accompanied by nipple changes or symptoms. Toyama et al., reviewed 38 cases of male breast cancer, two (5.3%) of which were accompanied by nipple erosion.

Various factors which might contribute to the development of male breast cancer have been reported to be undescended testes, orchiectomy, orchitis, late puberty, infertility, obesity, hypercholesterolemia, estrogen use, radiation exposure, testicular dysfunction secondary to heat exposure, excess circulating estrogen secondary to compromised hepatic metabolism, Klinefelter syndrome, and gynecomastia. The present patient was positive for HCV antibody, but liver func-

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**Fig. 2** Mammographic findings showing irregular mass with spicula formation.

**Fig. 3** Surgical specimen showing a solid tumor with infiltration into the nipple.

**Fig. 4** Histological findings showing infiltrating malignant cells with solid foci.
tion was within nearly normal range. Serum estrogen levels were also within normal ranges. The risk factors of the patient in this case were not clearly established.

A diagnosis of male breast cancer is obtained using the same methods as female breast cancer. Gynecomastia is entity which distinguishes male breast cancer. The role of mammography in the evaluation of male patients with breast disease is controversial. Evans et al. defined the diagnostic accuracy of mammography in the evaluation of male breast disease. The accuracy of malignant and overall benignity was 90% and 90%, respectively. Six (50%) of 12 cancers coexisted with gynecomastia, however, mammography could accurately distinguish between malignant and benign male breast disease. Routine use of mammography might substantially reduce the need for biopsy in patients whose mammograms and clinical examination suggested benign diseases.

Male breast cancer is most common in men over 60 years of age, and it has the same prognosis as the disease in females. Although the tumor had invaded to the nipple in the present case, the patient had consulted no doctors for 6 months because of the rarity of the disease. Conventional notions of breast cancer in males are that a late-presenting disease is associated with a worse prognosis than the same disease in females. de Perrot et al. studied 37 consecutive male breast cancers. The overall survival at 10 years was 44%, which was significantly influenced by the stage of disease. Although the long-term survival in stages I and II is similar in men and women, the rarity of breast carcinoma in men and its location in the subareolar region may delay diagnosis and treatment. Herman et al. analyzed 45 males compared to 500 selected women, with similar clinical parameters. Grading and lymph node status were the strongest prognostic factors. The relative risk of death for males was over 1.5 times higher than for females, but this result was not clearly significant. Vetto et al. reviewed a series of male breast cancers from three area hospital system cancer databases. Fifty-four patients were identified. Fifty-four patients were identified. Twenty-six patients underwent radical or modified radical mastectomy and five underwent simple mastectomies. Thirty-five patients received adjuvant postoperative therapies, including radiation, hormone and chemotherapy, which were administered separately or in combination. No difference in survival was found between simple or radical/modified radical mastectomy, nor among various types of adjuvant therapy. However, adjuvant therapy was most effective in large size, node positive and poorly differentiated tumors, and retained independent prognostic significance in multivariate analysis. In the present case, a simple mastectomy was selected because of the complications present. High positivity of hormone receptors means that postoperative adjuvant hormone therapy is effective in the treatment of male breast cancer. In addition to surgery, tamoxifen treatment may suppress recurrence. Our patient with advanced stage breast cancer survived five years after a simple mastectomy.

References
