Case Report

Primary Non-Hodgkin's Lymphoma of the Male Breast: A Case Report

Hiroshi Sashiyama*, Yasuhisa Abe*, Yukimasa Miyazawa*, Tohru Nagashima*, Masayuki Hasegawa*, Kazuaki Okuyama*, Takeichiro Kuwahara*, and Toshiyuki Takagi*

A 69-year-old Japanese man presented with bilateral gynecomastia and a soft, mobile and clearly defined mass beneath the left nipple. A round radiopaque mass was revealed on mammography. The tumor was homogeneous, hypoechoic and measured 2.4×3.9 cm on ultrasonography. Based on a diagnosis of malignant lymphoma by needle aspiration cytology, a modified radical mastectomy with ipsilateral axillary lymph node dissection was performed. Malignant diffuse large B-cell type lymphoma was diagnosed histologically. Whole body examinations revealed no evidence of other tumors. Three courses of adjuvant CHOP therapy were subsequently performed. The patient is free of recurrence 12 months after surgery.

Primary non-Hodgkin's lymphoma (NHL) of the male breast is extremely rare. The occurrence of lymphoma in this patient could be related to elevated estrogen levels.


Key words: Malignant lymphoma, Male breast, Gynecomastia

Primary non-Hodgkin's lymphoma (NHL) of the breast is extremely rare. In a past study, the incidence was estimated to be 0.17% of 25,927 primary malignant breast tumors. Since the first report by Elsberg, approximately 300 cases of primary NHL of the breast have been reported, with the overwhelming majority occurring in females. Only 11 male cases have been reported. We report herein a case of primary NHL of the male breast and discuss the role of hormonal status on tumor evolution.

Case Report

A 69-year-old Japanese man noticed a left breast mass in late March, 1997 and was admitted to our hospital on May 9, 1997.

The patient was positive on serological examination for the hepatitis C viral antibody but was without evidence of chronic liver disease. The patient's past medical and family histories were non contributors. Physical examination revealed bilateral gynecomastia and a soft, mobile and clearly defined round mass beneath the left nipple on palpation. Axillary lymph nodes were not palpable. Mammography showed a round-shaped radiopaque mass without microcalcification and spicule formation. Ultrasonography showed a clearly circumscribed homogeneous hypoechoic lesion measuring 2.4×3.9 cm in diameter with a regular surface. CEA and CA15-3 tumor markers were within normal limits. Fine needle aspiration cytology revealed malignant lymphoma cells. No evidence of other lesion was observed by bone marrow biopsy, gallium scintigraphy or computed tomography of the chest and abdomen. According to the criteria proposed by Wiseman and Liao, primary NHL of the breast was diagnosed. A modified radical mastectomy was performed with dissection of the ipsilateral axillary lymph nodes on the 14th of May. Macroscopically, the tumor was clearly circumscribed without skin or chest wall invasion, and the cut surface was milky white, soft and solid with hemorrhagic areas (Fig 1). Large cell lymphoma, B cell type was di-
Fig 1. A clearly circumscribed tumor without skin and chest wall invasion. The cut surface was milky white, soft and solid with some hemorrhagic areas.

Fig 2. Left, Diffuse proliferation of large atypical lymphocytes with high nuclear/cytoplasmic ratio (H&E, X400). Right, On immunohistochemical study, the tumor cells were revealed to stain positively with the B-cell marker L-26 (X400).

agnosed histologically according to the Working Formulation (Fig 2). No metastasis was detected in the dissected lymph nodes. Estrogen and progesterone receptor assays were negative. The clinical stage was IE by the Ann Arbor staging system. After surgery, 3 courses of CHOP therapy were performed. The patient is currently well with no evidence of recurrence 12 months after surgery.

**Discussion**

Primary NHL of the male breast is extremely rare. Only 11 cases have been previously reported. These cases and the present case are summarized in Table 1. The age distribution of the male group (from 9 to 81 years, median 58.9 years) is higher than that of the female group (mean age, 47 years). The tumor occurred in the right breast in six cases (54.5%), the left breast in three cases (27.3%), and bilaterally in two cases (18.1%). Tumors were located under the nipple in 6 cases (60.0%), usually close to the center. Histologically, eight cases (80.0%) had diffuse large B-cell type tumors. Four patients had gynecomastia or long-term estrogen therapy with or without prostatectomy. The present case also showed bilateral gynecomastia. This suggests...