Radiologic Findings of Male Breast Cancer: A Case Report

Jeong Geun Yi, M.D., Kyung Joo Park, M.D., Chun Hwan Han, M.D., Joo Hyuk Lee, M.D.

Male breast cancer is an uncommon disease with an incidence of 1 per cent of all breast cancers. Male breast cancer usually appears as a small mass with well-defined contour which is eccentrically located in relation to the nipple on mammogram. We report a case of breast cancer in a 51-year-old man with mammographic appearance of large hyperdense mass with nipple inversion and axillary lymphadenopathy, gray-scale sonographic finding of homogeneous solid mass and multiple tumor vessels within the mass on color Doppler ultrasound.

Index Words: Breast neoplasms, male
Breast neoplasms, US

The incidence of male breast cancer is less than 1% of all breast cancers and 1.5% of all cancers in men (1). The reports of male breast cancer are few in radiologic literature, because the male breast mass is usually diagnosed clinically and does not occasion the need for imaging studies (2, 3). Also the positioning of male breast for mammograms is not easy and magnification techniques are often necessary (4).

We report a case of large male breast cancer with ipsilateral lymphadenopathies, studied with chest radiography and ultrasonography (US).

CASE REPORT

A 51-year-old man visited our hospital for the evaluation of growing right breast mass. The mass was first identified about eight months ago. A hard mass, 10 cm in diameter, fixed to the chest wall with nipple inversion was found on physical examination and ipsilateral axillary and supraclavicular lymphadenopathies were also found. He had no previous history of gynecomastia, no family history of breast cancer and no specific underlying diseases, etc.

Chest radiograph (Fig. 1a) showed large soft tissue density mass outside of the thorax. The mammogram and US showed large homogeneous solid right breast mass with ipsilateral lymphadenopathies (Fig. 1b, c).

The color Doppler sonogram showed many internal tumor vessels in the breast mass and the lymph nodes with high peak systolic velocities, suggestive of malignancy (Fig. 1d).

The breast mass and ipsilateral axillary and supraclavicular enlargement of lymph nodes were confirmed as an infiltrative ductal carcinoma with lymph node metastases after needle aspiration biopsies.

DISCUSSION

The male breast is a vestigial organ consisting of a nipple, few secretary ducts with cuboidal epithelium, and fatty stroma. On mammogram, the normal male breast is homogeneously radiolucent mainly due to large amount of fatty stroma in the subareolar area with few strands of ductal tissue and without suspensory ligaments.

Male breast cancer is rare. According to Crichlow (1), after review of 2,217 cases from 84 references between the year 1900 and 1972, the incidence is less than 1 per cent of all combined male and female breast cancers and fewer than 1.5 per cent of all cancers in men. Mean age is 59.6 to 63 years, about 6 to 8 years older than that of females (1, 3, 5).

Although ductal cell carcinoma is the most common cell type (86.5 to 100 per cent) (1, 3, 5), any cell type can occur in the male breast. Although, lobular carcinoma is not known to be present in the male breast since the male breast does not possess the true lobules (1), few cases of lobular carcinoma have been reported (5, 6).

The causes of breast cancer in men remain un-
known, but several factors, although poorly documented, have been suggested to increase the risk for developing the male breast cancer. These factors include significant exposure to ionizing radiation (1, 7), imbalance of the estrogen milieu (1, 5) and the Klinefelter's syndrome (1, 6). Although gynecomastia is the most common pathology in the male breasts and the most commonly associated breast disease in male patients with breast cancer, it does not seem to have causal relation with cancer (1, 8).

The overall prognosis for male breast cancer was considered relatively poorer than that for females, especially for the patients with axillary lymph node metastasis. But Vercoutere et al. (5) experienced more favorable results of their patients than those of women.

A small mass with well-defined contour and subareolar location, but eccentric in relation to the nipple is the usually known mammographic appearance of male breast cancer (2-4, 8-10). Microcalcifications are variably noted from 13 to 30 per cent of patients (3, 8) and described as punctate (3), stippled, angular and irregular shape (9) not much different from those of women. Our case did not evidently showed microcalcifications since the density of the mass was too high to show the calcifications. Increased vascularity, nipple inversion, chest wall invasion and lymph adenopathy are also the supportive findings for male breast cancer.

Gynecomastia is usually larger than carcinoma and located in the central subareolar area in contrast with smaller size and relatively eccentric location of cancer (1, 2, 4, 8, 9). It also shows high rate of bilaterality. But in some cases, the differentiation with cancer is not always possible with mammography alone and in such cases sonography is complementary (4, 10).

Few cases of sonographic findings of male breast cancer have been reported, one was an hypoechoic mass (10) and the other was an hypoechoic mass with minimal shadowing (4). Our case showed a well-defined solid mass without posterior acoustic shadowing.

Although rare, male breast cancer can be diagnosed with mammogram. US is also an useful diagnostic tool that can aid mammogram in male patient with breast mass.

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남성 유방암의 방사선학적 소견: 1 예 보고

지방공사 강남병원 방사선과

이정근 · 박경주 · 한춘환 · 이주혁

남성 유방암은 전체 유방암의 1퍼센트를 차지하는 드문 질환이다. 유방촬영술상 경계가 비교적 분명한 작은 종괴로서 유두를 기준으로 하여 중심부 보다는 측면에서 관찰되는 경우가 많다. 남성 유방암의 방사선 소견은 보고가 적은바, 저자들은 51세의 남자 환자에서 유방촬영술상 유두가 함몰된 커다란 종괴와 역화 림프절 종대를 보이고 혈색도 초음파상에는 균질성 종괴로 나타났고 또한 색도플러 초음파상에서는 종괴내부에 수 많은 혈관을 보인 남성 유방암을 경험하였기에 보고한다.
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<td>1996/05/05 - 10</td>
<td>96th Meeting American Roentgen Ray Society</td>
<td>Marriott Hotel San Diego, CA, USA.</td>
<td>American Roentgen Ray Soc, 1891 Preston White Drive, Reston, VA 22091, USA. (tel: 1-703-6488992; fax: 1-703-2648863)</td>
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<td>1996/05/15 - 18</td>
<td>77th Deutscher Roentgenkongress</td>
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<td>1996/05/25 - 30</td>
<td>Annual Meeting Society for Pediatric Radiology</td>
<td>Westin Hotel Boston, MA, USA.</td>
<td>Univ. of Colorado, Dept. of Radiology, 4200 East Ninth Avenue, Denver, CO 80262, USA. (tel: 1-303-2704512; fax: )</td>
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<td>1996/06/07 - 13</td>
<td>59th Annual Scientific Meeting of the Canadian Association of Radiologists</td>
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<td>1996/06/23 - 29</td>
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<td>82nd Meeting Radiological Society of North America (RSNA)</td>
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