Case Report / *Olgu Sunumu*

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Synchronous Bilateral Male Breast Cancer: A Rare Case Report

Senkron Bilateral Erkek Meme Kanseri: Nadir Bir Olgu

Muzaffer Akıncı, Zehra Keklikkıran, Mürşit Dinçer

Haseki Training and Research Hospital, Clinic of General Surgery, İstanbul, Turkey

Abstract

Male breast cancer accounts for less than 1% of all breast carcinomas and 0.17 to -1.5% of all cancers seen in men. The incidence of synchronous bilateral male breast cancer has been reported to be 1.5%-2% of all male breast cancers. Although it can affect men of any age, the median age at diagnosis is 60-70 years. Herein, we report a case of bilateral/synchronous male breast cancer.

Keywords: Male breast cancer, invasive ductal carcinoma, synchronous tumor

Öz

Erkek meme kanseri tüm meme kanseri olgularının %1'inden daha azını oluşturur ve erkeklerde görülen tüm kanserlerin %0,17 -%1,5'ini oluşturur. İnsidansı tüm erkek meme kanserlerinin %1.5 ila %2'sidir. Her yaştan erkeği etkileyebilmesine rağmen tanıdaki medyan yaşı 60-70 yıldır. Bu çalışmada bilateral/senkron erkek meme kanseri olgusu sunuldu.

Anahtar Sözcükler: Erkek meme kanseri, invaziv duktal karsinom, senkron tümör

Introduction

Male breast cancer (MBC) accounts for less than 1% of all breast carcinoma cases and 0.17 to -1.5% of all cancers seen in men. Due to its rarity, all information about MBC comes from retrospective single-center studies or studies of female breast cancer (FBC). The incidence of MBC increases with age. While median age is 67 for MBC, it is 62 in FBC. Increased age, advanced stage, high grade, metastasis to the axillary nodes, large tumor size, hormone receptor negativity is associated with poor prognosis. Herein, we present a case of bilateral/synchronous MBC.

Case

A 72-year-old man presented with hard, non-tender masses in the subareolar region of his breasts. He noted that the masses were initially small, painless, but of increasing size. At the same time, he noticed a mass in his left axilla, painless and progressively increased in size. There was no history of nipple discharge, ulcer, or itching of the breasts. There was no history of trauma in either breast. His daughter had breast cancer and she was operated 8 months ago. The patient had no history of chest pain, weight loss, dypnea, night sweats or cough. There was no history of bone pain, abdominal pain/swelling or low back pain. He had no history of gynecomastia, solid organ tumor or hormone therapy. He was not a heavy drinker and quit smoking 6 years ago. His body mass index was 31.25 (height 165 cm; body weight 85 kg). The right nipple was retracted and there was a protuberant, red, solid mass in the lateral side of the left breast (Figure 1). His physical examination showed a 2.5-cm palpable mass just under the right nipple and a 5.5-cm mass in the lateral side of the left breast. Left axillary lymph nodes were palpable. There was no other remarkable pathological finding on his physical examination. The patient's hormone profiles were normal. Level of CA 15-3 was slightly increased (53.4 U/mL; normal range= 0-31.3 U/mL). He refused genetic analyses for *BRCA1/2* genes. Radiologic examination, breast ultrasonography and breast magnetic resonance imaging showed masses in the subareolar area of both breasts (Figures 2). In addition, chest radiography and

Address for Correspondence/Yazışma Adresi: Mürşit Dinçer, Haseki Training and Research Hospital, Clinic of General Surgery, İstanbul, Turkey
Phone: +90 544 642 28 20 E-mail: drmursitdincer@gmail.com ORCID: orcid.org/0000-0002-1930-0383
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liver ultrasonography showed no evidence of metastatic disease. Preoperative F-18-fluorodeoxyglucose positron emission tomography/computed tomography revealed bilateral uptake in the subareolar area of SUV_{max} 11.0 in the left breast with cutaneous invasion, and mild uptake in both axillae. Core-needle biopsy revealed invasive ductal carcinoma in the right breast and papillary neoplasia with in situ carcinoma in the left breast. There was no pathology in the fine needle aspiration cytology of the left axillary lymph node. Left modified radical mastectomy and right simple mastectomy and right sentinel lymph node biopsy (negative) were performed. Histopathological examination revealed invasive ductal carcinoma in the right breast (maximum diameter -2.5 cm), and intracystic papillary carcinoma in the left breast (maximum diameter -5.5 cm). Invasive ductal carcinoma in the right breast consisted mainly of micropapillary components and tumor cells and intracystic papillary carcinoma in the left breast. Tumor, nodes, metastases classification was consistent with stage IIIa. There was no evidence of tumor invasion into the pectoralis major muscle on either side. There was no evidence of tumor invasion of the skin in both breasts. Immunohistochemical staining of the left breast tumor revealed negative estrogen receptor 3+/3(>95%), progesterone receptor 3+/3 (95%) and c-erbB-2. Adjuvant hormone therapy and chemotherapy were planned for the patient.

Discussion

Bilateral MBC is very rare clinical entity with the reported incidence of 1.5% to 2% of all MBCs. The average age at diagnosis is 60-70 years. Tumor size and number of axillary nodes involved are the main prognostic factors. These factors guide the treatment choice. Locoregional approaches include surgery and radiotherapy (RT), depending upon the initial clinical presentation. The choice of systemic treatment between hormonal and or chemotherapy (CT) should depend upon the FBC management guidelines. It should be kept in mind that there are high rates of age-related comorbidities of CT (1). Bilateral, simultaneous presentation is extremely rare and is 1-2% of the total number of patients with breast cancer (2-6). Bilateral breast cancer is defined as the presence of an independent primary malignant tumor in each mammary gland; the term ''synchronized'' refers to the presence of primary tumors diagnosed simultaneously in both breasts (2,7,8).

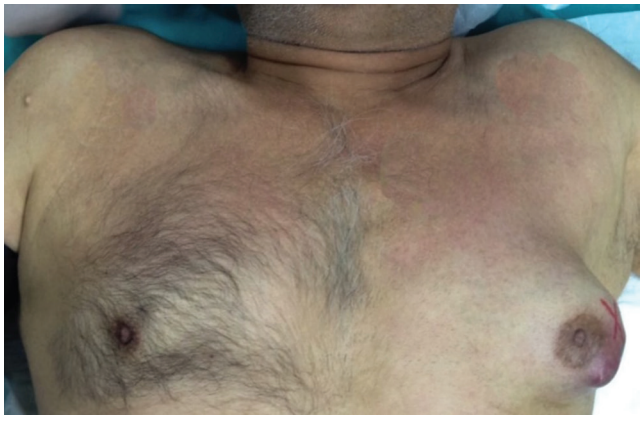

Figure 1. Patient aged 72 years with synchronous bilateral breast cancer

Metachronous bilateral involvement is more common than synchronous bilateral involvement (6,7). In the literature, there are case reports about synchronous bilateral MBC associated with male potential

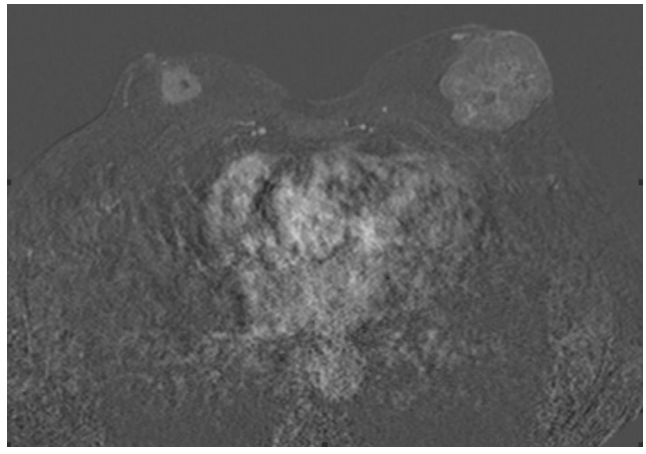

Figure 2. MRG of 90-sec post-contrast sequence showed masses in the subareolar area of both breasts. A large heterogeneous mass with mixed enhancement pattern is present in the left subareolar corresponding to malignancy. The margins of the mass are partly smooth defined but seems skin involvement with the mass measuring approximately 5.5 cm. The other mass, 2.5 cm in size with poor defined margin, is under the right nipple and caused right nipple retraction.
Magnetic resonance imaging (MRI) of 90-sec post-contrasted T1 FSPGR sequence (lateral view of right breast, Case 5). Palpable lesion on the lower outer quadrant (4 cm) and suspicious axillary nodes previously were seen on mammography and ultrasonography (US) (invasive ductal carcinoma on core biopsy of the breast lesion; fine needle aspiration positive for malignancy on lymph node). These patients were primarily planned to go through neoadjuvant chemotherapy followed by breast-conservation surgery in case of a sufficient clinical response. MRI has showed multicentricity on upper outer quadrant, changing surgical plan to mastectomy MRI of 90-sec post-contrasted T1 FSPGR sequence (lateral view of right breast, Case 5). Palpable lesion on the lower outer quadrant (4 cm) and suspicious axillary nodes previously were seen on mammography and US (invasive ductal carcinoma on core biopsy of the breast lesion; fine needle aspiration positive for malignancy on lymph node). These patients were primarily planned to go through neoadjuvant chemotherapy followed by breast-conservation surgery in case of a sufficient clinical response. MRI has showed multicentricity on upper outer quadrant, changing surgical plan to mastectomy

hypogonadism, hormonal therapy due to prostate cancer, hyperprolactinemia, long standing gynecomastia, and chromosomal abnormality (XXY or 45,X/46,XY mosaic karyotype) (9-11). The most common histological type in men is invasive ductal carcinoma (85-90%) as in women. Invasive papillary carcinoma is twice as common in men as in women (2-4% vs 1%) (12,13). Many different risk factors have been identified for male breast cancer, including familial and genetic factors *(BRCA2)*, Klinefelter syndrome (47,XXY), radiation exposure, hormonal imbalance, obesity, and testicular disease (undescended testis, orchitis, orchiectomy) (14,15). It has been reported that mutations of *BRCA2* gene are more frequent in males with breast cancer and the estimated mutation carrier frequencies varied from 4% to 40% (16). *BRCA2* MBC is more likely to test positive for hormone receptors, but is less likely to show c-erbB-2 over-expression compared to FBC (17). There is no data comparing MBC results in relation to the differences between unilateral and bilateral cases. The treatment of MBC is based on local and regional control of the disease with surgical and radiation therapy, and systemic control with hormone therapy and chemotherapy (18).

Conclusion

Due to the rarity of bilateral MBC, men often ignore the importance of examining their breasts. Since male breast cancer can be overlooked because its rarity, we wanted to emphasize the importance of breast cancer in men.

Authorship Contributions

Concept: M.A. Design: M.A. Data Collection or Processing: M.D. Analysis or Interpretation: M.D. Literature Search: Z.Z.K. Writing: M.A.

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