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A rare invasive male breast cancer of nonspecific type presenting at a primary care clinic: Importance of early diagnosis and management

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Abstract:

Male breast cancer is a rare disease with an incidence rate of <1% of all breast cancer cases, and only 1% of all male malignancies. Men tend to present at an older age and with more advanced stages compared to women. We report a case of a 74-year-old man who presented at a primary care clinic with a right subareolar painless breast mass. A mammogram and core biopsy were performed. A diagnosis of right invasive breast carcinoma was rendered. The patient underwent a right total mastectomy with ipsilateral axillary lymph node dissection, which revealed an invasive ductal carcinoma of no special type (NST). Chemotherapy, radiotherapy, and hormonal therapy were included in the adjuvant treatment plan. In this report, we discuss the important role of the primary care physician (PCP) in early diagnosis and referral for definitive management. The PCP also plays an essential role in the holistic care of male breast cancer patients, including the management of physical, psychological, social, and underlying chronic diseases.

Keywords:

Breast cancer, invasive, male, nonspecific type, primary care medicine

Introduction

Male breast cancer is extremely rare, accounting for only 1% of all malignancies in males and approximately 1% of all breast cancers worldwide.^[1,2] Men are often diagnosed with breast cancer at an older age than women, and the incidence of the disease increases with age, with an average age of 67 years at presentation.^[3] Men with breast cancer commonly present with a painless firm, subareolar lump.^[2] Invasive ductal carcinoma is the most common histological type in male breast cancer, and the majority of men have estrogen receptor/progesterone receptor (ER/PR)-positive disease.^[3,4] In this report, we present the case of invasive ductal carcinoma of a nonspecific type.

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Case Report

A 74-year-old man presented at a primary care clinic with a 2-month history of a painless lump in the right breast. The lump had progressively increased in size. There was no history of surgery or trauma to the breast. He had underlying hypertension and was under follow-up at the primary care clinic. He also had a history of prostatectomy for benign prostatic hyperplasia (BPH) in 2012. The patient is non-smoker, and there was no history of alcohol consumption, radiation exposure, liver disease, or testicular abnormalities. The family history revealed that his younger brother had had liver cancer and his niece had been diagnosed with breast cancer at the age of 40. He is married with six children.

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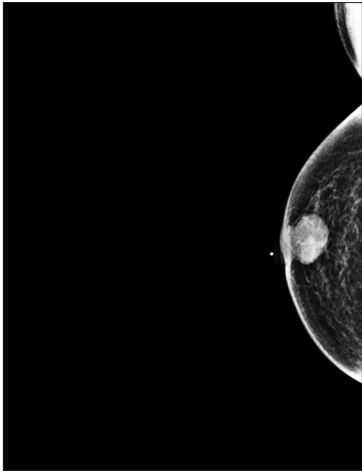


Figure 1: Mammogram of the right breast in CC view showing nodular opacity with irregular border in the inferior aspect. No calcification within. BIRADS 4c.

On examination, he generally appeared well with a body mass index of 22 kg/m². His Eastern Cooperative Oncology Group performance status was Grade 1. A clinical examination of the right breast revealed a retroareolar breast mass measuring 3 cm × 3 cm, which was firm, ill-defined, and fixed to the underlying muscle. There were no nipple or skin changes. There was palpable small right axillary lymph node. The left breast was normal, and there was no palpable axillary lymph node. A complete systemic examination was unremarkable. This mass was clinically suspicious of being malignant. The primary care physician instigated a multidisciplinary approach by requesting routine investigations and coordinating the care that involved a radiologist, a pathologist, a surgeon, and an oncologist for the definitive treatment of the case.

Ultrasound of the breast showed an irregular hypoechoic lesion measuring 1.8 cm × 2.2 cm × 2.0 cm at the right subareolar region. The right axillary lymph node with thickened cortex was seen. Mammographic findings consisted of a nodular opacity with an irregular border in the inferior aspect of the right breast [Figure 1]; No calcification was noted. The Breast Imaging-Reporting and Data System category was 4c. A core biopsy of the lesion was performed, and the diagnosis of invasive breast carcinoma was made. Computed tomography (CT) scan of the thorax, abdomen, and pelvis showed no distant metastasis.

The patient subsequently underwent a right total mastectomy with ipsilateral axillary lymph node dissection. The postoperative period was uneventful. The specimens were sent for histopathological examination.

The final pathological report revealed an infiltrative tumor composed of malignant epithelial cells in solid nests and clusters with a moderate degree of tubular

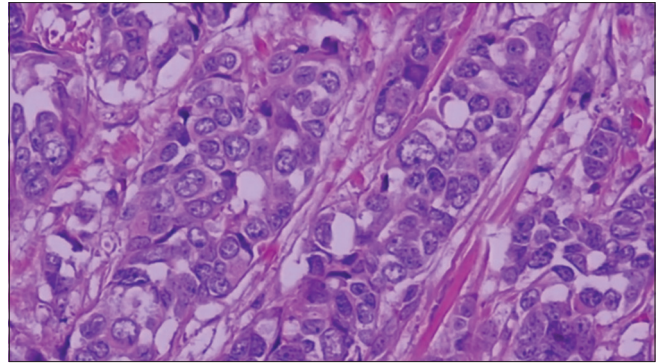


Figure 2: High power view: Photomicrograph of the retro-areolar region. The tumour shows solid clusters of malignant epithelial cells

formation [Figure 2]. Immunohistochemical stains showed that the tumor cells were positive for E-cadherin, ER, and PR but negative for Cerb-B2. Twenty lymph nodes were retrieved, but only two had evidence of tumor metastasis. The pathological staging was pT2pN1a (AJCC TNM Staging 8th Ed).

He received four cycles of doxorubicin and cyclophosphamide, followed by four cycles of docetaxel. He then received radiation to the right chest wall and supraclavicular fossa. It is planned that 20-mg tamoxifen will be given daily for 5 years as the tumors demonstrated ER positivity.

Discussion

The primary care physician (PCP) was the initial point of contact for this patient. This is the usual practice as patients often go to their general practitioners (GPs) or PCPs for new health complaints. Early identification of suspected cancers, especially an awareness of rare cancers such as breast cancer in men by PCP is essential to ensure early diagnosis and definitive management.

Compared to female breast cancer, male breast cancer is frequently detected at an advanced stage, because men are unaware of the possibility of their developing breast cancer and also because there are no routine screening programs.^[3] Our patient presented 2 months after noticing a lump in his right breast since he had no suspicion of the lump being cancerous nor had he ever heard of male breast cancer. Public health education and awareness of male breast cancer are important to alert men to seek medical attention as soon as they have any breast symptoms.

As with other cancers, family history plays a role in a person's risk of developing male breast cancer. The relative risk of developing breast cancer increases 2.5 times in men with a family history of breast cancer in a female relative.^[5] Therefore, all men with breast

cancer should be referred for genetic counseling and testing.^[6] This patient has a family history of breast cancer in his niece. The genetic testing he received showed no abnormal mutation. No genetic testing was done in the family.

The diagnosis of male breast cancer can be made after mammography and biopsy. Owing to the rarity of male breast cancer, not much is known about the disease. As a result, the diagnostic and therapeutic measures for its management are usually based on data from female breast cancer.

Treatment for early-stage male breast cancer is surgery, followed by endocrine treatment, chemotherapy, and radiotherapy.^[2] Endocrine therapy with tamoxifen is important in male breast cancer management since 90% of tumors are estrogen-receptor positive.^[7]

The patient was followed up regularly every 3 months. At the time of writing, 10 months after surgery, the patient has remained well with no observed signs of recurrence. PCPs have an important role in the follow-up care of cancer patients alongside specialist cancer clinic follow-ups. This is supported by a study that reports that cancer patients receiving care from both oncologists and PCPs get better preventive health and cancer care than those managed by either of the specialties alone.^[8]

Conclusion

Male breast cancer is extremely rare; consequently, unlike women, there is no screening program for men. Therefore, the detection of the possibility of breast cancer depends on the knowledge and expertise of PCPs to proceed with an early referral. The PCPs also have a role in the continuity of care, by identifying postoperative complications and providing continuous monitoring and psychosocial support to the patient.

Declaration of patient consent

The authors certify that all appropriate consent forms were obtained from the patient for publication of this case report. On the form, was the patient's consent for his images and other clinical information to be reported in the journal. The patient understood that his name and initials would not be published and every effort would be made to conceal his identity, but anonymity could not be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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