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Original Research Paper

Male Breast Carcinoma With Metastasis – Exploration of A Rare Surgical Entity

Medical Science

KEYWORDS : Breast carcinoma, male, infiltrative ductal carcinoma, metastasis, BIRADS, retroareolar region, modified radical mastectomy, lump

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ABSTRACT

Male breast cancer is exceptionally unusual. It accounts for 0.2% of all cancers, and 1% of all breast cancers. Most patients present late for several reasons, including the absence of early signs and symptoms, and reduced awareness of the existence of such pathology among male patients and physicians. Reporting this case from south Gujarat region, we tried to observe any differences in clinical manifestation from those reported in the literature, and aimed to increase the value assigned to male breast as a source of pathology among patients and physicians as well.

INTRODUCTION

Male breast carcinoma accounts for less than 0.1% of male cancers worldwide. Risk factors have been basically attributed to old age, genetic, endocrine factors or exposure to radiation or high estrogen levels. Decreased awareness of the existence of such a disease among male patients and physicians leads to its late presentation, when the majority of cases are invasive with distant metastasis and subsequently carry poorer prognoses. Specific mammographic characteristics of male breast cancer do exist, yet fine needle aspiration and surgical biopsy confirm the diagnosis and delineate the proper treatment modalities. Treatment modalities depend on the stage of the disease at presentation. Presenting a case of male breast cancer and reviewing related literature, we aim to highlight the importance of increased awareness towards the existence of such disease.

CASE REPORT

A fifty eight year old male presented to our outpatient clinic with left chest swelling with pain since 3 months. Examination revealed approximately 3 x3 cm^2 sized hard medial retroareolar non tender mass with irregular margins and not fixed to underlying structures. The mammography report revealed: 'Approximately 3.0 x 2.6 x 2.3 cm^3 sized rounded hyperdense space occupying lesion with lobulated margins in the left retroareolar region.' The sonomammography findings were approximately 3.0 x 2.6 x 2.5 cm^3 sized heterogeneous lesion having few calcific foci within it with internal vascularity noted in left retroareolar region. Complete blood counts, liver and renal function tests, , radiographs of chest and dorsolumbar spine were reported as normal. Fine needle aspiration cytology findings were suggestive of ductal carcinoma of left breast.

INTRA OPERATIVE FINDINGS

Following skin incision with the conventional scalpel, flaps were raised using the electrothermal bipolar cautery. Dissection of the breast tissue, being reflected off the pectoralis major muscle, was performed. Clavipectoral fascia was opened, and the axilla was exposed. The pectoralis major and pectoralis minor were retracted upward. The axillary vein was exposed, and all of its small tributaries were ligated. Axillary lymph node dissection was initiated from the lateral end of the vein. A plane of dissection was created along the inferior border of the axillary vein, and all the fat, lymph nodes, and blood vessels were dissected off the axillary vein toward the breast. All axillary vein and artery branches directed toward the breast and pectoralis major muscle were ligated. The thoracodorsal vessels and nerve and the long thoracic, subscapular, medial, and lateral anterior thoracic nerves were identified and protected. Level I, II axillary dissection was performed and pectolaris minor was retracted to expose level III nodes and dissected out. Two closed suction drains were placed, one in the axilla and the other on the chest wall.

The excised specimen was sent for histopathological evaluation and revealed infiltrating ductal carcinoma, moderately differentiated (Grade 2 according to Modified Scarff- Bloom-Richardson

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grading system). Out of 17 dissected nodes 10 showed metastasis of duct carcinoma and one showed micromets.

POST OPERATIVE MANAGEMENT

Patient was started orally on the evening of the operative day. Patient was observed during the hospital stay and no major post-op complications were noted. Wound examined on post-op day 3. Drains were removed when output <20 ml in 24 hour. Arm movements started in the 1st week. Patient was discharged on 10th post-op day after skin stitches removal and followed up weekly for 4 weeks and then every 2 months. Active shoulder and upper limb exercises were started from 2 weeks. To assess lymphedema, arm circumference was measured at 3 positions (10 cm below, 5 cm above, and 10 cm above the olecranon) in both arms before surgery and at every postoperative visit. Patient was referred for chemotherapy and radiotherapy.

DISCUSSION

Breast cancer is 100 times more common in women than in men. It accounts for < 1% of male cancers. It usually occurs in men of advanced age and is often detected at a more advanced state. Genetics, exposure to radiation, endocrine problems and history of benign breast lesions are common risk factors in both men and women. Specifically to men, however, risks also include old age, high socio-economic status, exposure to female hormone (patients with prostatic cancers on Estrogen treatment), and patients with reduced testicular function (Kleinfelter's Syndrome, mumps orchitis, and undescended testicles). Patients with hyperprolactinemia and/or gynecomastia have also been associated with male breast cancer, though to lesser extent.

A painless lump beneath the areola, usually discovered by the patient himself, is the most common presenting symptom in patients with male breast cancer. Cancer size is usually less than 3 cm in diameter and usually associated with nipple retraction, discharge, and fixation of breast tissue to skin and muscles. Breast pain occurs less frequently, and approximately 50% of men with breast cancer have palpable axillary lymph nodes.

Mammography detects 80-90% of patients with breast cancer who present with suspicious masses. Mammographic characteristics of male breast cancer are sub-areola and eccentric to the nipple with well defined margins, calcifications are rarer and coarser than those occurring in female breast cancer. Fine needle aspiration and surgical biopsy in high-risk patients will confirm the diagnosis and provides an indication about potential response to hormonal treatment.

Though male breast cancer represents only 1% of all breast cancers, 80-90% of cancers are infiltrating (invasive) ductal carcinoma, mostly because of delayed diagnosis. This type of cancer breaks through the duct wall and invades surrounding fatty tissues. The early stage of the disease is ductal carcinoma in situ; cancer is confined and limited to ducts. Paget's disease of the nipple, lobular carcinoma and sarcoma are far less common in male breast cancers compared to female. The presence of cancer cells in axillary lymph nodes through tissue diagnosis delineates the extent of spread of disease. Distant metastases include bone, lung, lymph node, liver and brain involvement. With positive lymph nodes, the five and ten year survival rate decreased to 73% and 50% respectively. Radiation therapy is used for patients with localized disease and a high risk for surgery, but it is given more often to alleviate symptoms in patients with advanced disease. Patients with extensive metastatic disease are treated by hormonal manipulation where two thirds of these patients respond to hormonal therapy. Chemotherapy is another alternative mode of treatment. Ablation treatment has been successful in some cases. Orchidectomy is the initial procedure in this option, due to the relatively good response and relatively decreased side effects and complications. If this is not successful, adrenalectomy and hypophysectomy show comparable results. These therapies lead to tumor regression, relief of symptoms and an increase in the survival rate.

There are significant differences between male and female breast cancer. Lesions are easier to find in males due to the smaller breast size; however, lack of awareness may postpone seeking medical attention. The presence of gynecomastia may mask the condition. The diagnosis is made later in males—at age 67 on average—than in females with their average at 63. Lesions are less contained in males as they do not have to travel far to infiltrate skin, nipple, or muscle tissue. Thus, lesions in males tend to be more advanced. Almost half of male breast cancer patients are stage III or IV. In familial cases, male BRCA2 carriers are at higher risk, rather than BRCA1 carriers. With the relative infrequency of male breast cancer, randomized studies are lacking. Efforts to increase awareness among patients and physicians will lead to earlier presentation, and therefore diagnosis before spreading to the axilla and other organs.

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