ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 12 | December - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

INVASIVE LOBULAR CANCER IN A MALE: A RARE CASE REPORT

Oncopathology

Dr. Hitesha Bhandari* DNB Pathology Resident, Bhagwan Mahaveer Cancer Hospital and Research Centre, Jaipur, Rajasthan. *Corresponding Author

Dr. Anjali Sharma HOD Pathology, Bhagwan Mahaveer Cancer Hospital and Research Centre, Jaipur, Rajasthan.

Dr. Rishikesh Dipak Nilapwar DrNB Surgical Oncology Resident, Bhagwan Mahaveer Cancer Hospital and Research Centre, Jaipur, Rajasthan.

ABSTRACT

Male breast cancer represents <2 % of breast carcinomas, with invasive lobular carcinoma constituting <1% of all male breast cancer cases as compared to females with 10-15% incidence .Invasive ductal carcinoma remains the most common subtype in both genders comprising 75-95% of all cases. Though lobular breast cancer is second most common subtype seen in women, such cancers are extremely uncommon in men and its related to lack of development of lobular and terminal duct epithelium in the male breast. Due to the paucity of this subtype, compounded by the rarity of male breast cancer , current understanding of the pathogenesis of this disease is still uncertain. We report a case of 69 year old male who presented with right breast lump, was diagnosed with Invasive lobular carcinoma. Histopathological study stated infiltrative neoplastic tumour cells arranged in single file pattern. The tumour cells lack E-cadherin expression thus ultimate diagnosis was reached.

KEYWORDS

Invasive Lobular carcinoma, Male breast, E-cadherin

INTRODUCTION

Breast cancer represents in order of frequency the first cancer worldwide in females with 11.6% of total. Regarding mortality it accounts for 6.6% worldwide (followed by lung cancer, colorectal cancer, stomach & liver cancer).[1] Carcinoma of male breast is infrequent, accounts for less than 2% of all breast cancers and constitutes <1% all malignancies in men.[2] Invasive ductal carcinoma (IDC) of no special type is the most common type of male breast carcinoma comprising 75-95% of all cases whereas lobular carcinoma (LBC) is exceptionally rare to occur.[3]

This sex dependent discrepancy is presumed to be related to the absence of lobular and terminal duct epithelium in males. Invasive LBC of the male breast was first reported by Sanchez et al in 1986 in a patient with Klinefelter syndrome.[4] According to the SEER (Surveillance, Epidemiologic and End Result Program), mean age for peak incidence is >50 years. Some of the risk factors found associated with male breast cancer are age, familial history of first degree male or female relative accounting to hyperestrogenism, obesity, Testicular dystrophy, Exogeneous administration of hormones, radiation exposure and genetic mutations (BRCA 2, CDH1 mutation, Kleinfelter syndrome).[4,5] The main stay of and presentation in male breast cancer is painless mass in the breast ,the skin may be ulcerated nipple retraction is seen in majority of the cases.[6]

Due to its extremely uncommon occurrence, we are greatly limited in our understanding of the natural history of disease progression, clinical presentation, best treatment management, and prognosis in men. Since there are handful of lobular carcinoma cases in male breast in published literature herein we would like to report case. The diagnostic and therapeutic work-up doesn't differ from females. Mutli-disciplinary endeavours are needed to establish the diagnosis emphasising the main lay on the morphology

CASE REPORT

A 69 year old male patient presented with history of right breast lump since 2-3 months with no other significant past and medical history. General and systemic examination didn't reveal any findings however on local examination a 2.5*2.5 cm firm nodule lesion was palpable in retroareolar region of right breast. Mammography done outside stated a suspicious lesion in right breast and outside reported cytology from the representative area didn't reveal any necrosis, granuloma, atypical cells.

The patient was then admitted and inhouse workup was done. Hematological and Biochemical parameters were found within normal limit. PET-CT imaging study was done and revealed heterogeneous enhancing soft tissue lesion seen in nipple and retroareolar region measuring 1.8*2.3 cm with FDG uptake. There was evidence of surrounding skin thickening and retraction of nipple. Multiple right axillary lymph nodes were seen largest measuring 1*1.2cm with FDG uptake.

Trucut biopsy from the representative area was evaluated on diagnostic frozen section that stated sheets of monotonous round cells seen with extensive desmoplasia in the background suggesting Lobular carcinoma. Subsequently Modified Radical Mastectomy along with axillary tissue clearance was planned and conducted.

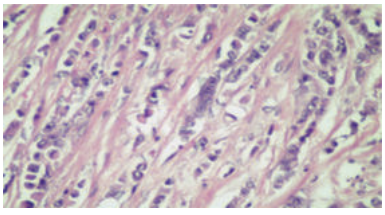

Fig 1: A. Photomicrograph Of Tissue Specimens From Right Breast Lesion Stained With Hematoxylin And Eosin Demonstrates Discohesive Monomorphic Neoplastic Cells In A Single-file Pattern. (Original Magnification 400x)

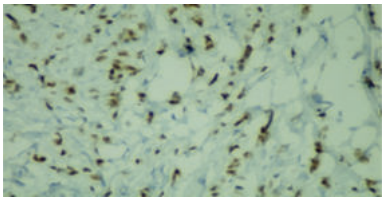

Fig 1b. Immunohistochemical Stained Slide Demonstrates Nuclear Er Positivity By Tumor Cells (Original Magnification 400x)

Histopathological study of the resected breast tissue revealed Dyscohesive infiltrating tumour cells arranged in single files and sheets depicting INDIAN FILE PATTERN with marked desmoplasia. These tumor cells had variable-sized large nuclei containing occasional nucleoli, and pale to slightly eosinophilic cytoplasm. No tubule formation was noted. Tumour was reaching upto overlying skin in nipple areola region. Multiple lymph nodes showed metastatic carcinoma along with perinodal spread. Both lymphovascular and perineural invasion were seen and it was categorized as pT2N3 post operatively (CAP Protocol, Breast cancer, February 2020).

Immunohistochemically, the neoplastic cells lacked E-cadherin and

HER-2 NEU expression. Both Estrogen and progesterone receptors were expressed in tumor cells with labeling index 90 %, 3+ for each. According to this an ultimate diagnosis of Invasive LBC was made in a male.

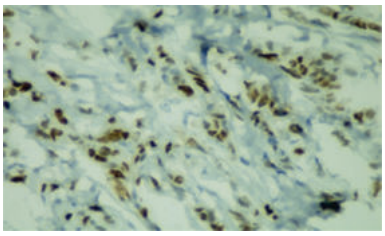

Fig 1 C. Immunohistochemical Stained Slide Depicts Nuclear Pr Positivity By Tumor Cells (Original Magnification 400x)

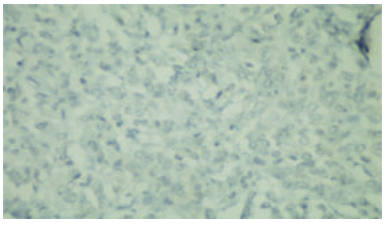

Fig 1 D. Immunohistochemical Stained Slide Depicts Negative E-cadherin Cytoplasmic Staining By Tumor Cells. (Original Magnification 400x)

DISCUSSION

The histological picture of carcinoma of the male and female breast is similar with the exception that male breast lacks lobules and acini, lobular or small-cell carcinoma is an absolute rarity. Similar to other cases in literature we also found in our case dyscohesive small round cells arranged in INDIAN FILE PATTERN.[8-10] There are handful of cases reported in literature which shows invasive LBC as etiology. Invasive LBC of the male breast was first reported by Sanchez et al[4] in 1986 in a patient with Klinefelter syndrome. Scheidbah et al in 1999[7] reported LBC in 85 year old man.

The predisposing factors for male breast cancer are mostly unknown. The majority of male breast patients present with a palpable mass and/or visible nipple changes, with median age at diagnosis in 6th decade.[11,12] Numerous causative factors have been illustrated, such as genetic mutation BRCA2, and conditions in association with hormonal imbalance of estrogen and testosterone. Certain medications, such as cimetidine[10], are hypothesized to raise the risk for male breast cancer via an estrogenic mechanism. Other risk factors are undescended testes, congenital inguinal hernia, orchiectomy, orchitis, testicular injury, infertility and Klinefelters syndrome.[10,13,14] BRCA2 mutation is more frequent than BRCA1 mutation, have been found in 4–40% of male breast cancer cases.[12]

The most common invasive subtypes of breast cancer in men are IDC of no special type (85% of all tumours) and papillary carcinoma (5% of all tumours).[16] Invasive LBC is extremely rare in men , histological appearance of dyscohesive cells infiltrating breast parenchyma, either individually dispersed or arranged in indian file pattern, and IHC based negativity for e-cadherin, are reliable diagnostic criteria. As in postmenopausal women, breast cancer in men is most commonly positive for hormone receptors.[17]

Screening mammography in male breast cancer is not advisable due to the low incidence of this disease entity. Mammography is the foremost imaging method for a clinically suspicious mass, followed by ultrasound (USG) and other techniques like MRI. Mammographic features show a spiculated mass or area of architectural distortion, with a minority of cases displaying an asymmetric density. Features indicative for malignancy include eccentricity to the nipple, speculation and microcalcifications. On the other hand, ultrasound may show an irregular mass with a hypoechoic or heterogeneous echotexture. In a fraction of cases, the tumour appear as a well-circumscribed mass or an isolated shadow without a mass, or could be unaccountable sonographically. [18,19]

Treatment guidelines for male breast cancer are not well established. However, the National Comprehensive Cancer Network states that mastectomy with sentinel lymph node biopsy or axillary lymph node dissection is recommended for surgical treatment in men, preferable to breast conservation with radiation therapy. Adjuvant Chemotherapy and hormone therapy may be used depending on tumor characteristics.[20] Anderson et al. conducted retrospective study and propose that the tumor biology of male breast cancer is more similar to that of postmenopausal women rather than premenopausal women, breast cancers in men and postmenopausal women were more likely to have lower histological grade and positive hormone expression compared to those in premenopausal women. Several key differences between breast cancer in men and women exist, including late presentation, increased tumor size, positive nodal status and lower incidence of Invasive LBC in men.[21,22]

CONCLUSION

Incidence of male breast cancer is less, however it is necessary that clinically it is suspected early when men present with suspicious findings, such as any palpable lump in the breast or axillary regions, bloody nipple discharge or nipple retraction/skin discoloration. Routine screening for male with strong family history should be emphasized. With major global burden of breast cancer it still remains a largely treatable disease in both men and women but early detection and awareness remains a major factor.

REFERENCES

1. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin [Internet]. 2021:71(3):209-49. http://dx.doi.org/10.3322/caac.21660
2. National Breast Cancer Foundation, Inc [homepage on the Internet] Male breast cancer. 2015. http://www.nationalbreast-cancer.org/male-breast-cancer.
3. Upadhyay R, Kumar P, Sharma DN, et al. Invasive lobular carcinoma of the male breast: a rare histology of an uncommon disease. J Egypt Natl Canc Inst. 2016;28:55–58.
4. Sanchez AG, Villanueva AG, Redondo C. Lobular carcinoma of the breast in a patient with Klinefelter's syndrome. A case with bilateral, synchronous, histologically different breast tumors. Cancer. 1986;57:1181–1183.
5. Hsing AW, McLaughlin JK, Cocco P, Co Chien HT, Fraumeni JF., Jr Risk factors for male breast cancer (United States) Cancer Causes Control. 1998;9:269–275.
6. Stierer M, Rosen H, Weitensfelder W, Hausmaninger H, Teleky B, Jakesz R, Fruhwirth H, Dünser M, Beller S, Haid A. Male breast cancer: Austrian experience. World J Surg. 1995;19:687–693. http://dx.doi.org/10.1007/BF00295904.
7. Scheidabach H, Dworak O, Schmucker B, Hohenberger W. Lobular carcinoma of the breast in an 85-year-old man. Eur J Surg Oncol. 2000 Apr:26(3):319-21. doi:10.1053/ejso.1999.0891.
8. Michaels BM, Nunn CR, Roses DF. Lobular carcinoma of the male breast. Surgery 1994; 115:402–5.
9. Wolff M, Reinis MS. Progress in Surgical Pathology. Breast Cancer in the Male: Clinicopathological Study of 40 Patients and Review of the Literature. Philadelphia: Field & Wood, 1983; 77–109.
10. SanMiguel P, SanchoM, Enriquez JL, Fernandez J, Gonzalez Palacios F. Lobular carcinoma of the male breast associated with the use of cimetidine. Virchows Arch 1997;430: 261–3.
11. Agrawal A, Ayantunde AA, Rampaul R, Robertson JF. Male breast cancer: a review of clinical management. Breast Cancer Res Treat 2007;103:11–21.
12. Rudlowski C. Male breast cancer. Breast Care 2008;3:183–9.
13. Giordano SH, Buzdar AU, Hortobaghyi GN. Breast cancer in men. Ann Intern Med 2002;137:678–87.
14. Nahleh ZA, Srikantiah R, Safa M, Jazieh AR, Muhleman A, Komrokji R. Male breast cancer in the veterans affairs population: a comparative analysis. Cancer 2007;109:1471–7.
15. Chikaraddi SB, Krishnappa R, Deshmane V. Male breast cancer in Indian patients:is it the same? Indian J Cancer 2012 Jul-Sep;49(3):272-6.
16. Erhan Y, Zekioglu O, Erhan Y. Invasive lobular carcinoma of the male breast. Can J Surg 2006;49:365-6.
17. Ishida M, Mori T, Umeda T, et al. Pleomorphic lobular carcinoma in a male breast: a case report with review of the literature. Int J Exp Pathol 2013;6:1441-4.
18. Lattin GE, Jesinger RA, Mattu R, et al. From the radiologic pathology archives diseases of the male breast: radiologic-pathologic correlation. Radiographics 2013;33:461-89.
19. Nguyen C, Kettler MD, Swirsky ME, et al. Male breast disease: pictorial review with radiologic-pathologic correlation. Radiographics 2013;33:763-79.
20. National Comprehensive Cancer Network. Breast Cancer (Version 1.2019). Available athttps://www.nccn.org/professionals/physician_gls/pdf/breast.pdf.
21. WF Anderson, MD Althuis, LA Brinton, SS Devesa. Is male breast cancer similar or different than female breast cancer? Breast Cancer Res Treat, 83 (1) (2004), pp. 77-86.
22. LA. Korde, JA. Zujewski, L. Kamin, et al. Multidisciplinary meeting on male breast cancer: summary and research recommendations. J Clin Oncol, 28 (12) (2010), pp. 2114-2122.