International Journal of Health Sciences and Research
Volume 14; Issue: 7; July 2024
Website: www.ijhsr.org
Case Report *ISSN: 2249-9571*

A Rare Case of Male Breast Cancer (MBC) with Review of Literature

Dr. Mrunal Bharat Kshirsagar[1], Dr. Sudhir Kumar Jain[2], Dr. Shivika Agarwal[3]

[1]Senior Resident General Surgery, RMCH, Hapur
[2]HOD of General Surgery, RMCH, Hapur,
Ex Director Professor and Unit Head ESIC Medical college Faridabad, Haryana
[3]Senior Resident ESIC Medical college Faridabad, Haryana

Corresponding Author: Dr. Shivika Agarwal

DOI: https://doi.org/10.52403/ijhsr.20240733

ABSTRACT

Breast cancer in men is a rare condition, accounting for an estimated 0.5-1% of all breast cancer cases. Recent data indicate a slight increase in incidence, although epidemiological information on male breast cancer remains scarce compared to its female counterpart due to its rarity. Typically, this type of cancer is observed in elderly men, often in their 60s or 70s. Men with breast cancer tend to be diagnosed at advanced stages, which generally leads to poorer outcomes compared to female breast cancer (FBC).
This study aims to comprehensively analyze the epidemiological factors and clinicopathological characteristics of male breast cancer patients.

Keywords: carcinoma breast, ductal invasive carcinoma, female carcinoma breast , male carcinoma breast

INTRODUCTION

Male breast cancer is a rare disease, accounting for approximately 0.2% of all cancers in men and nearly 1% of all breast cancers (4, 5). The incidence of breast cancer in men, compared to women, is approximately 1 case in 100 (1, 6), occurring in less than 1 case per 100,000 men (1, 4, 5, 7). It is responsible for 0.1% of cancer deaths in men (reference 8).
The average age at presentation is typically between 60-70 years (2, 5, 6, 9), with a mean age of 67 years (10). Men affected by male breast cancer are generally 5 to 10 years older than women diagnosed with breast cancer (1). Invasive ductal carcinoma is the predominant histological type in men, accounting for 65 to 95% of cases (5).
Due to its rarity and the distinct hormonal milieu in males compared to females, many recommendations for the diagnosis and management of breast cancer in women may not always be directly applicable to male breast cancer patients.

CLINICAL CASE

A 50-year-old patient with no allergic, surgical or family history of breast cancer attended surgical OPD with an increase in volume in the right breast of 6 months of evolution. On physical examination, a painless mass of 3 cm was observed, which

was superficial, not adhered to the chest wall, with well-defined margins, hard in consistency and immobile, with thickening and slight flush of the skin, with multiple small nodules located in the lower inner quadrant of the right breast. The axilla and supraclavicular fossa were negative for adenopathies. The patient was not receiving any hormonal therapy nor obese.

Ultrasound was also performed, which showed a nodular, ovoid image, with macro-lobulations, hypoechoic, homogeneous, circumscribed, vascularized, without calcifications, located in the retro-areolar region of the left breast, 3 × 4 cm in its major diameters and cataloged as BIRADS IVC.

The findings in the physical examination of unilateral mammary mass with nodular changes in the skin, and taking into account that in the imaging study a lesion with suspicious characteristics of malignancy a histopathological study with core needle biopsy was determined, for which a biopsy was taken by Trucut guided by ultrasound with a 20 × 9 cm needle, from which cylinders of yellowish solid tissue of approximately 10 mm were obtained; the histopathological study revealed a group of epithelial cells with atypia, of homogeneous size, without mitosis. The cellular nests were observed in the stroma with an infiltrative appearance. The findings are consistent with malignant epithelial lesion of the breast. The anatomopathological diagnosis was invasive ductal carcinoma, so complementary imaging studies were performed in search of metastasis, and immunohistochemistry. ER (+) 99% positive cells PR (+) 95% positive cells HER2/neu negative. Chest x-ray revealed few pulmonary nodules and abdominal ultrasound were normal. PET CT was suggestive of presence of multiple bilateral pulmonary metastasis. In February 2023, the patient underwent modified radical mastectomy (right breast). The final pathological diagnosis was a 5*4*4 cm ductal invasive carcinoma, estrogen receptor(ER)-positive, progesterone receptor (PR)-negative, human epidermal growth factor receptor 2 (HER-2)-positive, and Ki-67 labelling index of 50%. The axillary lymph node dissection showed four positive nodes among 17 lymph nodes retrieved. (pT2N2Mx).

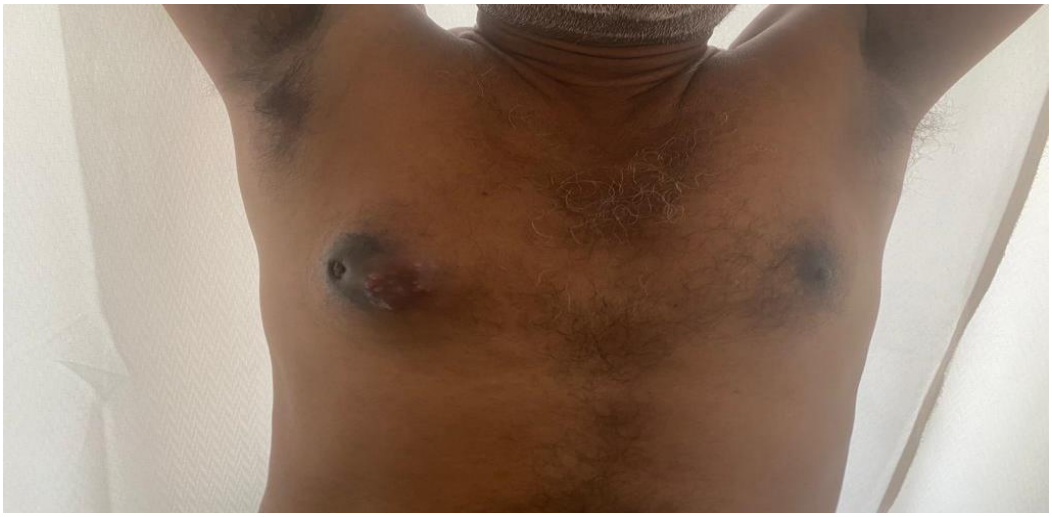

Figure 1: Lesion in Right Breast

Figure 2: Right Breast

Figure 3: After Surgery

DISCUSSION

Breast cancer in men is often diagnosed at a later stage compared to women (3), and the left breast is more frequently affected than the right (11). In its early stages, male breast cancer typically presents as an asymptomatic and painless lump, leading patients to seek medical attention only after symptoms have developed, indicating advanced disease (12). The most common clinical presentation involves a unilateral nodule near the nipple, averaging around 20 mm in size at diagnosis

(11). Pain accompanies the mass in only 5 to 10% of cases (8). Skin or chest wall involvement is common, often resulting in fixation of the mass and occasionally accompanied by axillary lymphadenopathy (8, 12). Nipple abnormalities are rare, with retraction observed in 5 to 10% of cases and ulceration or discharge in 6 to 9% (11). Nipple discharge, especially bloody, is clinically significant as it may indicate non-invasive disease, with a high likelihood of malignancy in 57 to 75% of cases (8, 12).

The small size of the male breast facilitates early infiltration of tumor cells into the chest wall (14). Different types of breast cancer in men include ductal carcinoma in situ, where cancer cells are confined to the ducts; invasive lobular carcinoma, which starts in the mammary lobules and invades fat cells; and invasive ductal carcinoma, which invades the ducts and can metastasize (15).

Risk factors for male breast cancer include conditions that disrupt hormone levels such as chronic liver disease, cirrhosis, and Klinefelter's syndrome, as well as a family history of breast cancer and mutations in genes like BRCA2 and possibly BRCA1 and CHEK2 (references needed). Other risk factors include occupational exposure to heat, vapors, and magnetic fields, obesity, and chronic alcohol consumption exceeding 90 grams per day.

Delayed diagnosis in men is attributed to limited awareness of this condition. Mammography is now useful in distinguishing between benign and malignant breast diseases in men, potentially reducing the need for biopsies. However, cases may arise where clinical suspicion of cancer is high despite benign-looking imaging findings, necessitating confirmation through biopsy.

CONCLUSION

Male breast cancer (MBC) is uncommon, but its incidence has been rising in recent years. There is a critical need for educating both patients and healthcare providers to enhance awareness of MBC and to ensure evidence-based treatment approaches are followed. Given the increased risk of BRCA mutations, especially in the presence of a family history of breast and ovarian cancer, MBC patients should be offered genetic counseling.

Future research efforts should focus on understanding the tumor biology of MBC and evaluating treatment efficacy to determine if optimal strategies align with those used for female breast cancer (FBC). Establishing a global database encompassing all prevalent MBC cases would facilitate the development of more effective therapies aimed at improving survival rates.

Declaration by Authors

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Rojas K, Osorio A, Escobar P, Uribe A, Gaete F. Cáncer de mama en el hom- bre: Experiencia del Hospital Dr. Luis TisnéBrousse. Rev. Obstet. Ginecol. 2009;4(1):24-7.
2. Khan L, Dixon M. Case report: Male breast cancer. Am J Hematol/Oncol. 2016;12(6):11-4.
3. Rodríguez A, González I, Bracho M, Vivas C, Vásquez L, Pacheco C, et al. Cáncer de mama bilateral en hombre. Rev VenezOncol. 2012;24(3):253-5.
4. Wroński K. Male breast cancer – case report and review of literatura. New Medicine. 2014; 2:52-4.
5. Maderira M, Mattar A, BarataPassos R. A case report of male breast cancer in a very young patient: what is changing? World J SurgicOncol. 2011; 9:16.
6. Acosta-Maldonado B, Hernández-Ríos D, Acosta-Rangel P. Carcinoma de mama masculino. CIMEL. 2006;11(1):44-6.
7. Tallón-Aguilar L, Serrano-Borrero I, López-Porras M, Sousa-Vaquero JM, León-Carrillo

J. Cáncer de mama en el varón. Cir Cir. 2011; 79:320-3.
8. Mesa G, Matute G, Estrada M, Ocampo A, Restrepo C, Estrada J. Cáncer ma- mario en hombres. Rev Colomb Cir. 2011; 26:293-307.
9. Prasad S, Kumar-Srivastava A. Carcinoma breast male: A case report. Am J Med Case
10. GiordanoS. Areviewof the diagnosisand managementof male breastcancer. The Oncologist.2005;10:471-9.
11. Ochua G, Barutta E, Fernández S, Carpio R, Loredo R. Cáncer de mama mul-ticéntricoen el hombre:reporte de un caso.RevArg Rad.2006;70(4):293-6.
12. Medina Ruiz B, Villalba D, Galli M, Dami H, Ojeda H. Gines A. Cáncer demama en hombres. Casuística del InstitutoNacional del Cáncer (INC). An.Fac.Cienc. Méd.2009:41;(1):2.
13. Elias A. Male breast cancer - Case report and brief review. Middle East J FamilyMed.2004;6(6):1-6.
14. Bravo M, Adrada A, Bolaños H. Cáncermamario en el hombre. Presentación de un caso y revisión de la literatura. Rev Colomb Cir. 2004;19(4):246-53.
15. Omigie AC, Hill C. Male breast carcinoma: A case study. IntJourn of AdvNursPract. 2013;12(1):1-6.

How to cite this article: Mrunal Bharat Kshirsagar, Sudhir Kumar Jain, Shivika Agarwal. A rare case of male breast cancer (MBC) with review of literature. *Int J Health Sci Res.* 2024; 14(7):245-249. DOI: *10.52403/ijhsr.20240733*

******