

Infiltrating lobulated carcinoma of right breast in a male with unknown risk factor: A rare case report

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Abstract—Male breast cancer (MBC) is an uncommon malignancy, accounting approximately 0.5-1% of all about breast cancer cases worldwide, with even lower reported figures from rural Indian tertiary care setting. We report the case of 56-year male labour who presented with a progressively enlarging, painful right breast lump of two months duration, with out any identifiable predisposing risk factor such as gynecomastia, hyperestrogenic state, hormone therapy, prior radiation or family history of breast or other malignancy. clinical examination revealed an 8×6cm globular retro areolar mass with nipple distortion and serous discharge. Ultrasonography and MRI of both breasts demonstrate a multi-lobulated mixed solid cystic mass with increased vascularity and suspicious pectoralis major invasion without significant axillary lymphadenopathy. Fine needle aspiration cytology confirmed infiltrating lobulated carcinoma, grade 2 (moderately differentiated).and the patient underwent a modified radical mastectomy under general anaesthesia. The post-operative course was eventful over an eight-day inpatient stay, with progressively declining drain output and a healthy uninfected wound .this case highlights the importance of maintaining ahigh index of suspicion for malignancy in any male presenting with a breast lump irrespective of the presence of classical risk factor and underscores the role of a structured diagnostic algorithm(clinical examination ,imaging and cytology)and the pharmacist led perioperative medication management in achieving a favourable short-term surgical outcomes.

Index Terms—Male breast cancer, infiltrating ductal carcinoma, modified radical mastectomy, fine-needle aspiration cytology, Robinson grading, rare case.

I. INTRODUCTION

Breast cancer is very common disease in women but it may also occur in men. Whom it remains a rare and under-recognized malignancy. Across the 0.5-1% male

breast cancer cases are reported and although its absolute incidence is low, based on population report a gradually rise in incidence over recent decades this will increase the diagnostic awareness(1,2). Tata memorial centre in Punjab identified only 34 MBC cases based on 4.5 years retrospective review representing less than 2% of breast cancer with a median age at diagnosis of 62.5 years(3). Similarly, signal centre Indian series from a tertiary radiotherapy department identified only 18 cases over an eight-year period reflecting the lack of clinical pathological data in the Indian context(4).

Unlike the female breast the normal adult male breast contains only basic ducts and essentially no lobules therefore nearly all male breast malignancies are arisen from ducts with infiltrating ductal carcinoma accounting for 84-94% of reported cases. Well known risk factor of MBC includes advancing age, obesity, chronic hyperestrogenic states (such as liver cirrhosis or Klinefelter syndrome).prior chest wall radiation exposure ,BRAC1/2 or related gene mutations and a positive family history of breast cancer which approximately doubles risk in male first degree relatives(5,6) .clinically MBC most commonly occurs as a painless, firm, unilateral retro areolar mass sometimes accompanied by nipple retraction or discharge and because men lack routine breast screening programs diagnosis s frequently delayed to a more locally advanced stage compared with women .

The diagnostic procedure for a suspected male breast malignancy mirror that used in women and follows a triple-assessment approach comprising clinical examination imaging (ultrasonography with or without mammography/MRI) ,and cytology or histological confirmation via fine needle aspiration

cytology (FNAC) or core needle biopsy. Robinsons cytological grading system which scores six morphological parameters (cell disassociation, cell size, uniformity nucleoli, nuclear margins and nuclear chromatin) on a scale of 6 to 18, has been shown to correlate strongly with Elston Ellis modification of the Scarff-Bloom-Richardson histological grading system and is validated preoperative prognostic tool even in the male breast. The mainstay of curative treatment for localized MBC remains surgical, with modified radical mastectomy (MRM) with or without axillary clearance considered the surgical gold standard given the typically retro areolar and centrally located nature of male breast cancer and the frequent proximity to the pectoralis fascia.

II. CASE PRESENTATION

A male patient of age 56-year-old was admitted in general surgery department with the chief complaints of swelling in the right breast in the last two months duration. The swelling was insidious in onset initially small in size and gradually progressed to its presenting size and lab investigation are complete blood picture showed haemoglobin 13.7 g/dl, total WBC count 7,200 cells/cumm, (polymorphs 60%, lymphocytes 34%, eosinophils 2%, monocytes 4%), and platelet count 2,70,000/cumm all within normal limits. Serum electrolytes were sodium 139mmol/Potassium 4.0mmol/L and chloride 102mmol/L. Random blood sugar was 115mg/dl and serum creatinine 0.73 mg/dl and ultrasonography of the right breast revealed a lobulated lesion measuring 8×6.7×5.2 cm in the retro areolar region of mixed solid cystic echotexture (predominantly cystic), with the solid component showing moderately increased vascularity on colour Doppler and the cystic component showing thin internal septations involving the nipple-areolar complex with suspicious invasion of the right

pectoralis major muscle reported as a malignant mass with MRI and histopathological correlation advised. Subsequent contrast free MRI of both breasts confirmed a multi-lobulated altered signal intensity mass measuring 7.4×6.2×6.1 cm in the retro areolar region of the right breast hypo to iso-intense on T1 and iso-intense on T2, with a solid and cystic component. The bilateral pectoralis major muscle appeared normal on MRI (in contrast to the sonographic suspicious of invasion), and a right axillary lymph node measuring 2.1×1.2 cm was noted within a preserved fatty hilum, without significant axillary lymphadenopathy. The left breast was normal with no ductal dilation. The impression was of a likely malignant mass with histopathological correlation suggested.

Fine needle aspiration cytology (FNAC) was performed from a solitary, well defined, fixed, tender swelling measuring approximately 5×4cm in the right breast with nipple retraction noted at the time of aspiration. The first pass yielded 1ml of haemorrhagic fluid and the second pass yielded 0.2 ml of blood mixed aspirate. Microscopy showed cellular smears with malignant ductal epithelial cells arranged in groups, clusters, sheets and singly scattered forms; the cells were large, round to oval, showing moderate nuclear pleomorphism, hyperchromatic nuclei with moderate eosinophilic cytoplasm, prominent nucleoli and a plasmacytoid appearance against a dense acute inflammatory and haemorrhagic background. Robinsons cytological grading was applied, yielding a total score of 12/18 (cell dissociation 2, nuclear size 2, cell uniformity 2, nucleolic 2, nuclear imaging 2, chromatin patterns 2), corresponding to grade 2 (moderately differentiated). The cytopathological impression was of infiltrating ductal carcinoma of the right breast, grade 2.

III. LAB INVESTIGATIONS

FNAC (FINE NEEDLE ASPIRATION CYTOLOGY REPORT)

CLINICAL DIAGNOSIS

Carcinoma of right breast

BREIF HISTORY

C/o swelling in the right breast since 2 months sudden in onset associated with pain. No H/o trauma, No H/o discharge from swelling. No H/o loss of appetite/ weight loss. No significant family H/o. No similar complaints in past.

CLINICAL EXAMINATION

A solitary swelling of size measuring approximately 5x4 cm noted in right breast. On palpation it is well defined, fixed, associated with tenderness, nipple retraction noted. Skin over the swelling appears normal. No local rise of temperature noted.

RADIOLOGICAL FINDINGS

Lobulated lesion measuring 8x6.7x5.2 cm noted in retroareolar region of right breast which is mixed solid. Cyst showing moderately increased vascularity on colour doppler. Cystic components showing few thin internal septation involving NAC. Suspicious invasion of right pectoralis major muscle.

SITE OF ASPIRATION

Right breast

NATURE OF ASPIRATE

1st pass - 1ml of hemorrhagic fluid

Pathologist
National Medical College Hospital
National-518-00320004000

MICROSCOPIC FEATURES

Smears are cellular, showing malignant ductal epithelial cells arranged in groups, clusters, sheets and individually scattered. The cells are large round to oval in shape, showing moderate nuclear pleomorphism, hyperchromatic nucleus with moderate amount of eosinophilic cytoplasm and prominent nucleoli. Few cells are showing plasmocytoid appearance, against dense acute inflammatory cell and hemorrhagic background

Robinson cytology grading : Grade 2 - Moderately differentiated

Parameter	Score
Cell dissociation	2
Nuclear size	2
Cell uniformity	2
Nucleoli	2
Nuclear margin	2
Chromatin Pattern	2
Total Score	12

IMPRESSION

Cytopathological features suggestive of Infiltrating breast Carcinoma Grade - 2 (moderately differentiated) - Right breast

NOTE

Please correlate clinically and histopathological examination.

*** End Of Report ***

Pathologist
National Medical College Hospital
National-518-00320004000

Name	Mr. Dastagiri	Age/ Sex	56Y/M
Visit	01	Date	07.07.2026

MRI – BOTH BREAST (PLAIN)

Study Protocol : Multiple planar multi sequence of Both breast has been performed using 1.5 T MRI.

Findings :

- Multi lobulated altered signal intensity mass measuring 7.4x6.2x6.1cm (TRxAPxCC) with solid (hypo to isointense on T1 , isointense on T2) and cystic component noted in retro areolar region of right breast
- Bilateral pectoralis major muscle appears normal
- Right axillary lymphnodes measuring 2.1x1.2cm noted in central fatty hilum
- Left breast shows normal signal intensity .
- No obvious dilatation of lactiferous ducts noted.
- Bilateral axillary regions are normal . No significant lymphadenopathy

IMPRESSION :

- *Multi lobulated altered signal intensity mass measuring 7.4x6.2x6.1cm (TRxAPxCC) with solid (hypo to isointense on T1 , isointense on T2) and cystic component in retro areolar region of right breast*

----Likely malignant mass

---Suggested HPE correlation

Dr. B.E.PANIL KUMAR, MD (RD)
PROFESSOR

IV. DISCUSSION

Male breast cancer (MBC) is a rare malignancy, accounting for approximately 0.5-1% of all breast cancers world-wide. Due to its rarity, most available evidence comes from retrospective studies and case reports, with limited male-specific prospective data(7,8). The present case is notable because the patient was a 56year old man with no identifiable major risk factors or family history of malignancy. Common risk factors for MBC include advanced Age, Obesity, Gynecomastia, Hormonal imbalance, Klinefelter's Syndrome, Liver disease, previous chest irradiation, and BRCA1/2 mutations(9). However, some patients develop MBC without any identifiable predisposing factor, as observed in our patients. This emphasizes that a breast lump in a male should not be assumed to be benign and requires appropriate clinical evaluation.

The patient presented with a breast lump of relatively short duration and underwent clinical examination, ultrasonography, MRI, and FNAC. Imaging is

important for evaluating the extent of disease, while tissue diagnosis confirms malignancy(10). In this case, MRI was particularly useful because ultrasonography initially suggested possible pectoralis major involvement, whereas MRI demonstrated no involvement of the pectoralis muscles.

Modified radical mastectomy was performed as definitive treatment. Mastectomy remains the most commonly used surgical approach in MBC because of the small amount of male breast tissue and the frequent central or retro areolar location of tumours(7,10). Further treatment depends mainly on tumour stage, lymph-node status, hormone receptor status, and HER2 expression. Hormone-receptor-positive MBC is commonly treated with endocrine therapy, with tamoxifen being the preferred adjuvant treatment(11). An important limitation of the present case is the unavailability of the final histopathological and immunohistochemical results at the time of reporting. Tumour grade, margins, lymph-node status, ER, PR, HER2, and Ki-67 are essential for definitive staging and selection of adjuvant treatment. Therefore, long-

term management in this patient will depend on the final pathological findings. This case highlights the importance of early recognition and appropriate evaluation of male breast lesions, even in the absence of known risk factors.

V. CONCLUSION

Male breast cancer is a rare condition and may occur even in the absence of known risk factors. This case highlights the importance of early diagnosis and proper evaluation of any breast lump in a male patient. A systematic diagnostic approach using clinical examination, MRI imaging, and fine needle cytology evaluation is essential for the diagnosis and treatment planning. Modified radical mastectomy are treatment plan to this patient. Adjuvant increased clinical awareness and timely diagnosis may help improve outcomes in patients with this uncommon malignancy.

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