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Case Report

A case report of 29 year old male patient with breast carcinoma: diagnosed on fine needle aspiration cytology

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ABSTRACT

Breast cancer has been considered a female dominated disease. Carcinoma of male breast is a rare disease representing 1% of all breast cancers and less than 1 % of all cancers in men. The mean age at presentation is mainly in sixties. We here present a case of male breast cancer presented at very young age of 29 years, diagnosed on fine needle aspiration which was confirmed later on histopathological examination.

Keywords: BRCA 2 mutation, Higher grade, Invasive ductal carcinoma, Older age, Poor prognosis

INTRODUCTION

Breast carcinoma in male is relatively rare. The peak incidence is usually around 60 years of age.[1] The mean age at diagnosis is older than the average age at diagnosis for women. Some genetic and hormonal abnormalities have been identified as risk factor for male breast carcinoma. Although rare, there have been instances of breast cancer in young males. Among the histologic types, invasive ductal carcinoma is the most prevalent breast cancer in males with the incidence varying from 65% to 95%. Fine needle aspiration cytology is a quick, accurate and cost-effective method for the evaluation of palpable breast lump.[2]

CASE REPORT

A 29-year-old male patient came to our institute with complaint of progressively enlarging and painful left sided breast lump since 4 months. He had no significant past medical or family history and not taking any medication. Patient had history of anorexia and weight loss. He was taking alcohol and tobacco since 5 years. Clinically provisional diagnosis of gynaecomastia was given. Ultrasound reported 20x15 mm^2 sized heterogeneous echotexture lesion in the left retro areolar region. Patient was referred to the department of pathology for fine needle aspiration cytology. On physical examination painful subareolar left sided breast lump was noted with firm to hard in consistency and without involvement of overlying skin. There was no axillary lymphadenopathy and right breast was unremarkable. An aspiration was performed using 23-gauge needle and stained using MGG (May-Grünwald Giemsa), H and E and pap stain. The smears were hypercellular with tumour cells arranged in dyscohesive sheets and dispersed singly. These cells had pleomorphic vesicular nuclei with prominent nucleoli and abundant eosinophilic cytoplasm. The cytomorphological diagnosis of mammary carcinoma was offered which was later correlated with histological diagnosis of Invasive ductal carcinoma Grade 3.

DISCUSSION

Carcinoma of male breast is a rare malignant epithelial tumour that is histologically identical to cancer of female breast. Breast cancers in males occur at relatively older age when compared to females and more often during 5^{th} to 7^{th} decades of life. The main reason being late presentation, lack of self-awareness and delayed diagnosis, men have more

advanced disease and large tumour size than women, resulting in high morbidity and mortality.[2]

Breast cancer has been associated with variety of risk factors. Approximately 15 to 20% of men with breast cancer report a family history of breast or ovarian cancer.[2] BRCA 2 is the most clearly associated gene mutation, BRCA 1 mutation is also associated with male breast cancer.[3] Besides BRCA, it has been associated PTEN mutation in Cowden syndrome and mutation in androgen receptor, CHEK 2 and CYP17.[4] Other possible associated risk factors for breast neoplasm includes Klinefelter's syndrome, estrogen excess and lack of androgen, obesity, diabetes, radiation exposure.[3]

In this case, patient presented at very young age, though he did not have a family history, hormonal history or chromosomal abnormality that could justify the high risk for breast cancer. Patient had been taking alcohol since 5-6 years, but alcohol consumption has not been consistently identified as a risk factor for male breast cancer.

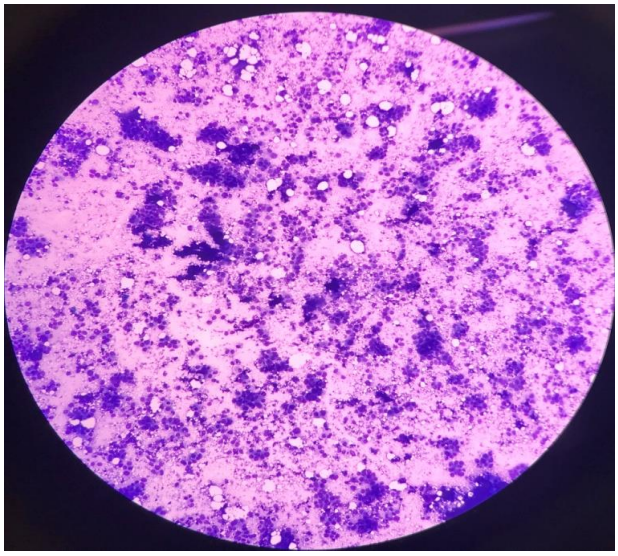

Figure 1: 10x view MGG stain: Stained smear showing malignant ductal epithelial cells arranged in dyscohesive aggregates, clusters and dispersed.

The case was diagnosed as mammary carcinoma cytomorphologically. The smears were hypercellular with tumour cells arranged in dyscohesive sheets and dispersed singly. These cells had pleomorphic vesicular nuclei with prominent nucleoli and abundant eosinophilic cytoplasm as shown in figure 1,2 and 3. Final diagnosis of invasive ductal carcinoma grade 3 Given on histopathological examination. Histologically invasive ductal carcinoma NOS is the most common type and incidence of ductal carcinoma in situ is seen up to 10% of all cases.[5] Histological grading is similar as applied for invasive carcinoma in females. Carcinoma of grade 2 and 3 are reported in 80% of cases. About 42% of breast cancers cases in men are diagnosed in stage III or IV.[6]

Men are frequently ER and PR positive, perhaps indicating increased proliferative activity. Over expression of human epidermal growth factor 2 (HER2), a negative prognostic factor in women is found less often in men.[4] The risk of contralateral breast cancer appears to be higher for men than it is for women. Male breast cancer survivors have an increased risk of developing a 2nd primary cancer. Prognosis depends upon tumour grading, estrogen receptor status, age at presentation and race. Man with younger age have poor prognosis.[6]

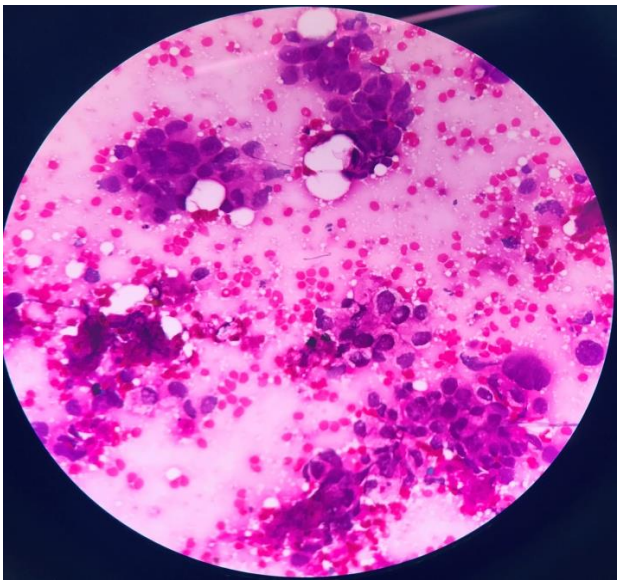

Figure 2: 40x view; H and E stain, Smears show malignant ductal epithelial cells showing moderate to marked cytological atypia.

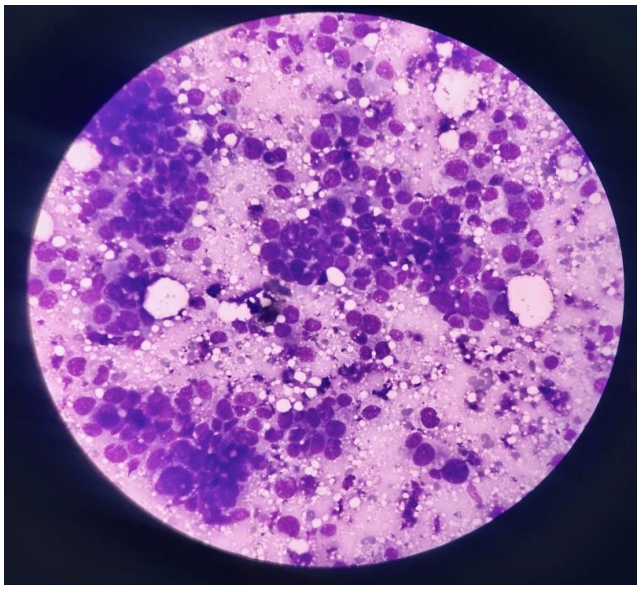

Figure 3: 40x view; MGG stain (figure 3): Smears show malignant ductal epithelial cells showing moderate to marked cytological atypia.

CONCLUSION

Invasive carcinoma of male breast in young age is extremely rare. Only few cases are on record. Here we described a rare case of invasive ductal carcinoma which was clinically suspected as gynaecomastia and diagnosed on fine needle aspiration. There was absence of any known risk factor for this unusual presentation. Most breast enlargement in young men is dismissed as gynaecomastia. This potential misdiagnosis can result in unnecessary delay in treatment and poor prognosis.

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