



Mixed Mucinous and Infiltrating Ductal Carcinoma: A Rare Type of Male Breast Cancer.

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Abstract

Male breast cancer is a rare entity compared to its female counterpart. The most common histologic subtype in male breast is invasive ductal carcinoma, no special type. Mucinous carcinoma occurring in male is extremely uncommon. There are only 30 cases of mucinous carcinoma reported in literature till date. Here, we report a rare case of mixed mucinous and infiltrating ductal carcinoma in male breast.

Key words: *Male breast carcinoma, Mucinous carcinoma.*

Introduction

Male breast carcinoma is a rare neoplasm comprising <0.6% of all breast malignancies and <1% of malignancies in male. [1-3] Mucinous carcinoma (MC) is a rare histological subtype of breast carcinoma (BC). MC is characterized by the presence of clusters of epithelial cells suspended in abundant extracellular mucin. [4,5] It accounts for approximately 2% of female breast carcinoma and its occurrence in male breast is rare with only 30 cases reported in literature till date. [6,7] MC has been described in pure and mixed forms. Mixed mucinous carcinomas carry poor prognosis when compared to pure forms. [1,2] Here, we report a rare case of mixed mucinous and infiltrating ductal carcinoma in a male patient.

Case Report

A 62-year-old male patient presented with a painless lump in right breast for 5 months which progressively increased in size. It was associated with mild discomfort. There was no history of nipple discharge. The patient had undergone cholecystectomy 10 years back. Ultrasonography (Figure 1) of the right breast showed a well-defined taller than wider heterogeneous mass (3 x 3 cm) in the retro alveolar region of the right breast with few enlarged axillary lymph nodes. FNAC of the right breast lump showed features of breast carcinoma characterized by presence of pleomorphic cells in loose cohesive clusters and dispersed pattern. The patient underwent a right modified radical mastectomy. Cut section of the specimen showed a well circumscribed mass measuring 3 x 3 cm having gelatinous hemorrhagic appearance(Figure 2). Histopathological examination (Figure 3) revealed mixed type mucinous (60%) and infiltrating ductal carcinoma (40%). Six out of twelve lymph nodes were positive for tumor. All surgical margins were free of tumor. Pathological staging was pT2N2a. Immunohistochemical evaluation showed that the tumor cells were positive for ER, PR and negative for HER2. Ki67 index was 30%. The patient received adjuvant chemotherapy and radiotherapy.

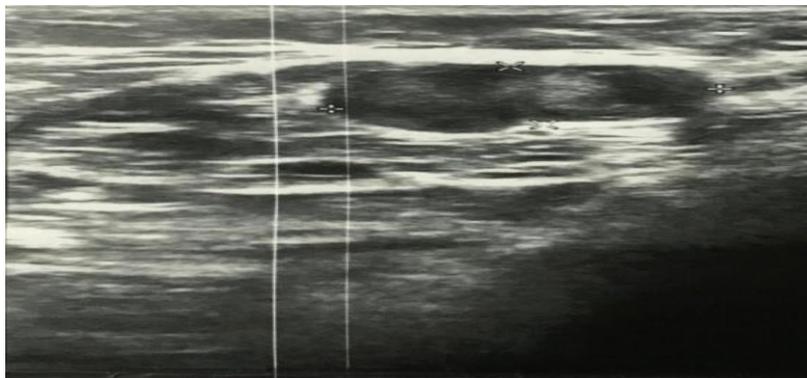


Figure 1. Ultrasound image of right breast, retroareolar region demonstrating 3 cm heterogeneous mass



Figure 2. Cut section showing a gelatinous hemorrhagic mass

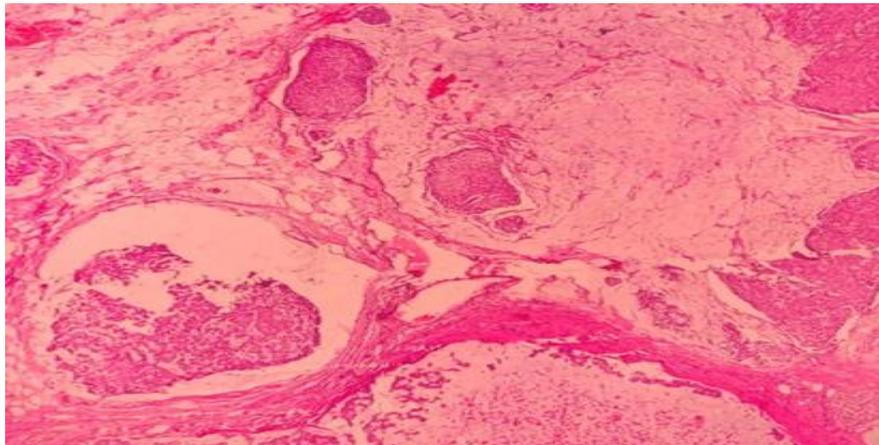


Figure 3. H&E showing clusters of tumor cells suspended in abundant mucin pools.(100X)

Discussion

BC is the most common cancer diagnosis in females globally. However, BC in male is rare comprising of <1% of all breast carcinomas. [3,4] The incidence of male BC increases with advancing age and presents at an older age than females.⁸ Genetic factors like BRCA2 mutation, klinefelter's syndrome and family history of breast cancer are linked to increased incidence of carcinoma in male breast.^{1,2,3} Hormonal imbalances like testicular disease, radiation exposure, obesity also contribute in occurrence of breast cancer in male. [4,5]

Invasive ductal carcinoma, no special type (IDC-NST) is the most common histological variant of breast cancer.⁸ There are only few cases of MC reported in male breast. MC is subdivided into pure and mixed

forms. The pure form is defined as a lesion comprising of >90% of tumor and mixed form is defined as having mucinous and IDC-NST components. [6 ,9] Pure MC is associated with better prognosis and lower rate of axillary lymph node metastasis than mixed type in females. [8] This could be attributed to the presence of abundant extracellular mucin that may act as barrier diminishing the tumor burden at the site of margin. [2] Therefore some researchers have suggested sentinel lymph node dissection rather than axillary lymph node dissection for patients with pure MC. [5] However, there are some cases of pure MC with axillary nodal metastasis in males similar to our case. [6,10]

The standard treatment of male BC is modified radical mastectomy with lymph node dissection followed by hormonal therapy, chemotherapy or radiation. [1,2] Majority of MCs are ER and PR positive similar to our case and therefore hormonal therapy remains the optimal treatment.

Conclusion

BC behaves aggressively in males as compared to females. Mixed mucinous and invasive ductal carcinoma is extremely rare. The treatment of such tumors depend upon the subtype, size, lymph node involvement and hormone status. Increased awareness with early detection and treatment provides maximum survival benefit in male patients.

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