

Pure mucinous carcinoma of male breast with axillary lymph node metastasis

Megha Shukla, VD Dombale, Kotabagi HB, S Reddy
Department of Pathology, S. Nijalingappa Medical College, Bagalkot, Karnatak,

Abstract

Male breast cancer is rare compared to its female counter part and among it pure mucinous carcinoma is extremely rare. It has a better prognosis than invasive ductal carcinoma not otherwise specified and is more prevalent in older patients. Axillary lymph node metastasis is rare in pure mucinous carcinoma but when present carries poor prognosis.

Key words: male breast, pure mucinous carcinoma, lymph node metastasis.

Introduction

Male breast cancer is a rare disease, accounting for < 1% of all male tumors [1]. Major risk factors include clinical disorders carrying hormonal imbalances, radiation exposure and a positive family history [1]. Among the histologic variants pure mucinous carcinoma of male breast is an extremely rare entity [2]. Very rarely it involves axillary lymph nodes [3]. To our knowledge only 2 cases of pure mucinous carcinoma with axillary lymph node metastasis have been reported [4].

Case history

48 years male presented with history of lump in left breast since 3 years. On examination a hard lump was palpated with left axillary lymph nodes. The overlying skin and areola showed small ulcers [Fig 1]. On FNAC mucoid sticky material was aspirated which showed atypical ductal epithelial cells with abundant mucinous background [Fig 2]. Patient underwent modified radical mastectomy with axillary lymph node dissection.

Gross

A modified radical mastectomy specimen was received measuring 21x14x5.6 cm and attached axillary tail 15cm in length, together weighing 375 gms. Overlying skin measured 14x8 cm. On cut section tumor measured 9x9cm, was grey white, slimy with gelatinous appearance and involved all the quadrants. Axillary tail retrieved 12 lymph nodes with grey, glistening appearance on cut section [Figure 3].

Microscopy

Excised breast tissue showed tumor cells arranged in lobules, cords, sheets, glands & cribriform pattern. These cells had moderately pleomorphic, hyperchromatic nuclei with scanty cytoplasm. Frequent mitotic figures were noted. Tumor showed extensive extracellular mucinous material with floating tumor cells [Figure 4]. Nipple and areola were involved. Adjacent fat tissue and all surgical margins showed tumor deposits. Out of 13 dissected lymph nodes, 3 showed metastasis [Figure 5].

Address for Correspondence

Dr. VD Dombale, Professor of Pathology,
S. Nijalingappa Medical College, Bagalkot-587102, Karnataka, India.
E-mail:-drvijaydombale@gmail.com



Figure 1. Male breast tumour with ulcerated nipple & areola

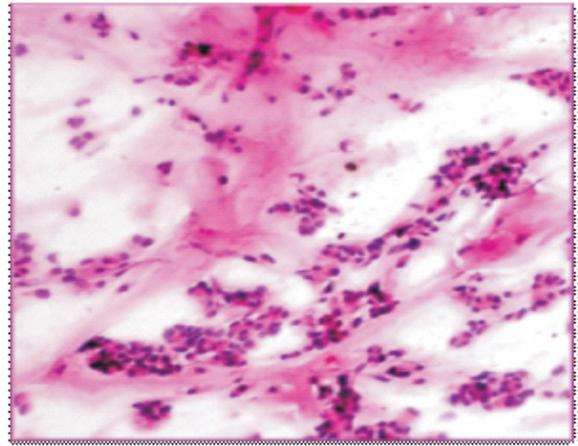


Figure 2. FNAC – smear shows atypical ductal epithelial cells in a mucinous background



Figure 3. Tumour measuring 9x9cm involves all the quadrants. Cut surface – Grey white, slimy & gelatinous.

Figure 4. Section shows atypical ductal epithelial cells in clusters with large pools of mucin. H and E 100X.

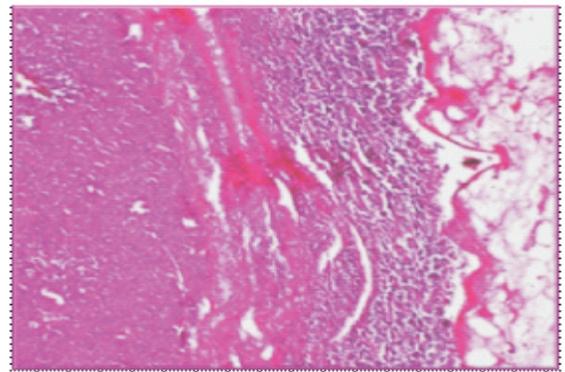
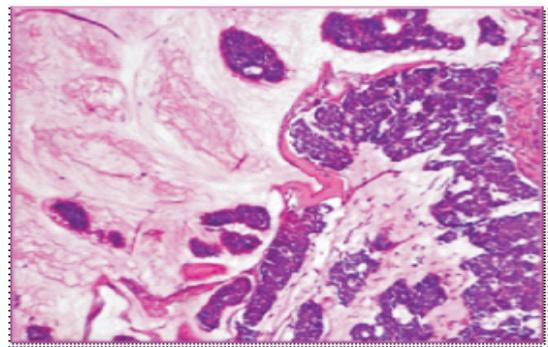


Figure 5. Section shows architecture of lymph node replaced by atypical ductal epithelial cells and scanty extracellular mucin.

Discussion

Male breast cancer is rare and carries worse prognosis due to anatomic factors like paucity of breast tissue, close tumour proximity to skin and nipple, facilitating dermal lymphatic spread, early regional and distant metastasis and delayed diagnosis [2]. Most common histologic variant in men is IDC (NOS) while mucinous carcinoma is rare [4]. Pure mucinous carcinoma is an extremely rare neoplasm accounting for less than 2% of male breast carcinomas with only 12 cases reported in literature [4]. Mucinous breast carcinomas are morphologically classified into two different groups: Pure mucinous carcinomas consisting only of areas with small epithelial islands of solid tumour floating in abundant extracellular mucin and mixed carcinomas where the tumor contains larger areas of mucin as well as areas of infiltrating carcinomas devoid of extracellular mucin [5]. The 2 types differ significantly with respect to a number of prognostic factors, the most important of which is lymph node metastasis and longer recurrence free survival in pure mucinous carcinoma than patients with mixed carcinomas [5]. Axillary lymph node disease is rare in pure mucinous carcinomas and correlates with a younger age, aneuploidy, high nuclear grade or a negative ER receptor status [6]. The standard treatment of male breast cancer is modified radical mastectomy combined with axillary lymph node dissection. However some authors suggest that axillary nodal dissection may be unnecessary in pure mucinous carcinoma because of very low incidence of axillary metastasis. Sentinel lymph node biopsy may help identify the need for axillary dissection[7].

Conclusion

Pure mucinous carcinoma is an extremely rare neoplasm of male breast in which axillary lymph node metastasis is exceptional & if present carries bad prognosis.

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