

Case Report

Bilateral Apocrine Carcinoma of Breast in a Male Patient - A Very Rare Case

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ABSTRACT

Background: Male breast cancer is very uncommon and it accounts for 0.8% of all breast cancers. The median age of diagnosis is five year older than in women. Apocrine carcinoma of the breast is a rare and special type of breast carcinoma which has distinct morphologic, immunophenotypic and molecular features. Apocrine carcinoma of male breast is an extremely rare malignant tumor which microscopically reveals more than 90% of cells with dense eosinophilic granular cytoplasm.

Case History: We report a case of apocrine carcinoma in a 85 years old male patient, who presented with bilateral breast masses with palpable left axillary lymph node. FNAC diagnosis was given as bilateral apocrine carcinoma with metastasis in left axillary lymph node.

Conclusion: Bilateral Apocrine carcinoma of male breast is extremely rare and we present the case because of its extreme rarity and distinct microscopic and immunophenotypic features.

Key words: Apocrine Carcinoma, Male breast, Bilateral.

INTRODUCTION

Apocrine carcinoma of breast is a rare type of malignant tumor, the incidence of which varies between 0.3 - 0.4 % of all female breast cancers. ^[1] Apocrine carcinoma is exceptional in male patients and very few cases have been described in literature. ^[2] This tumor shows distinct microscopic and immunohistological features. ^[3] We report an extremely rare case of bilateral apocrine carcinoma of the male breast.

CASE HISTORY

85 years male patient presented with bilateral swellings in right and left breast with bilateral axillary lymphadenopathy. He noticed left sided breast lump 6 months back, it was 8 x 6 cm in size, firm, fixed to skin with ulceroproliferative growth of the

skin over lump with enlarged left axillary lymph nodes.

Right breast lump was noticed 2 months back which was 3.5 x 3 cm in size, firm and fixed to skin with enlarged right axillary lymph nodes.

Mammography features revealed large areas of calcification with infiltrating borders.

Cytological Features: Fine needle aspiration cytology of bilateral breast lumps and axillary lymph nodes was performed.

Microscopy: Smears from both breast lesions were highly cellular and revealed neoplastic cells arranged in sheets, clusters and scattered singly. Individual cells revealed enlarged, eccentric vesicular, pleomorphic nuclei with coarse chromatin, prominent nucleoli and ample amount of granular eosinophilic cytoplasm which revealed positivity with Periodic Acid-

Schiff stain. Background showed tumor necrosis.

Fine needle aspiration cytology of left axillary lymph node revealed metastasis of same tumor while right axillary lymph node showed features of reactive lymph node.

Considering these microscopic features diagnosis on Fine Needle Aspiration Cytology was given as Bilateral Apocrine Carcinoma of breast with metastasis in left axillary lymph node.

DISCUSSION

Pure Apocrine carcinomas of breast are very rare, morphologically distinct type of invasive breast carcinoma and represents 0.5 % of all invasive breast cancers. [4] By definition, cytological features of apocrine cells should reveal abundant granular eosinophilic cytoplasm in more than 90% of tumor cells. Adherence to these criteria is necessary as apocrine differentiation is seen in 1/3rd of invasive breast cancers. [5]

Like our patient, the average age of onset is between 6th and 7th decade. Male patients have been advanced disease at presentation compared to women which may be due to lack of public awareness of breast cancer in male. [6] Several risk factors for male breast cancer have been proposed such as familial and genetic factors, radiation exposure, Klinefelter syndrome, hormonal risk factors, obesity, undescended testis and orchidectomy. [7,8]

Our patient had no such risk factors.

Clinical Presentation: Clinical and mamographical features of apocrine carcinoma do not defer from invasive duct carcinoma as seen in our case. [3]

Diagnosis: WHO classification of breast cancer describes apocrine carcinoma as a tumor, composed predominantly of cells with abundant eosinophilic granular cytoplasm. Usually two types of cells are seen variably. Type A cells show abundant granular dense eosinophilic cytoplasm. The granules are periodic acid-schiff stain positive after diastase digestion. There nuclei vary from globoid with prominent

nucleoli. Type B cell show abundant vacuolated cytoplasm. [9] Our case revealed only type a cells.

IHC Features: Apocrine carcinomas are negative for estrogen receptors, progesterone receptors. HER2 is positive in 50% apocrine carcinoma while androgen receptors and expression for GCDFP-15 are distinct IHC markers for apocrine carcinoma. [4]

Differential Diagnosis

As clinical and mammographic features of Apocrine carcinoma are similar to invasive breast carcinoma. Fine needle aspiration cytology is the only available non invasive method of diagnosis because of the distinct microscopic features of this tumor. Cytomorphological mimickers of apocrine carcinoma are apocrine cyst, Apocrine adenosis, Apocrine metaplasia and atypical ductal hyperplasia of Apocrine type, Apocrine adenoma and oncocytic carcinoma.

Hence preoperative diagnosis on Fine needle aspiration cytology is substantiated by subsequent histopathological and immunohistochemical markers study. [10]

Unfortunately, excision was not possible in our case as patient was lost to follow-up.

Prognosis and Treatment

Treatment protocols of apocrine carcinoma are similar to non apocrine carcinoma of breast. However studies involving the use of anti androgens are in progress. [11]

Five year survival rate for apocrine carcinoma in female is 72%, however male breast cancer have poorer prognosis than female breast carcinoma. [12] Tumor size and axillary lymph node involvement are independent prognostic factors for diagnosis of male breast cancers. [13] Considering these factors our case revealed bad prognosis.

CONCLUSION

- Apocrine carcinoma is a rare and distinct morphologic type of breast

cancer and is exceptional in male patients.

- Fine needle aspiration cytology plays an important role in an early diagnosis leading to prompt management.
- Apocrine carcinomas have different hormonal profile, androgen receptor positivity makes patient with apocrine carcinoma eligible for targeted therapy.

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