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Case report

Adenoid cystic carcinoma: a rare breast carcinoma

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Key words

Adenoid cystic carcinoma • Breast • Excellent prognosis • Rare neoplasm

Summary

Adenoid cystic carcinoma is a rare neoplasm accounting for <0.1% of breast carcinomas. The mean age of presentation is fifth to sixth decade of life and it generally presents as a painful breast lump. The histological features are characteristic with cribriform and acinar pattern of basaloid cells. It is triple negative tumor with CD117 and p63 positivity and excellent prognosis.

Introduction

Adenoid cystic carcinoma (ACC) of breast is a rare neoplasm comprising of < 0.1% of breast carcinomas [1]. The mean age of presentation is fifth to sixth decade of life. Commonly it presents as a painful breast mass [2]. The mammographic findings are not specific. Histologically, it is similar to its analogue in the salivary gland and composed of biphasic population of cells arranged in cribriform pattern. It is a carcinoma of low malignant potential and can be cured by simple mastectomy. ACC of breast is associated with excellent prognosis and regional lymph node or distant metastases seldom occur [2].

Case report

A 50 year old female presented with a small tender lump in left breast in subareolar region with a clinical diagnosis of fibroadenoma. No erythema, ecchymosis, skin ulceration or dimpling was noted. The patient was a non smoker and non alcoholic. Mammography revealed a well defined mass 2.8 cm in size and located in retroareolar region. Family history of the patient was negative for breast cancer. It was graded as M3 on Breast Imaging Reporting and Data System scale. Initially the excision biopsy was performed and evaluated at an outside laboratory. Grossly, a globular tissue bit measuring 3 x 2.7 x 1.2 cm with cut section showing grey-white areas was received. Histopathological diagnosis of Invasive Lobular Carcinoma was given. The slides were reviewed in our hospital and diagnosis of adenoid cystic carcinoma was made. Sections studied show basaloid cells and myoepithelial cells arranged in cribriform pattern (Fig. 1 A, B). Nottingham's histological score of 4 was given based on tubular differentiation [2], nuclear pleomorphism [1] and mitotic count [1]. Foci of lymph vascular invasion seen. On IHC the tumor cells were positive for CD117 (Biogenix;YR145) (Fig. 1C) and p63(Biogenix;4A4) and negative for ER,PR and HERCEPT (Fig. 1 D, E, F respectively).

Discussion

Adenoid cystic carcinoma has a special importance because of its rarity as a primary neoplasm of the breast and also because of its excellent prognosis. Its mean age of presentation is 6th decade and it usually presents as a lump in the breast which is painful on palpation [2]. The radiological findings are generally non- contributory. On histology biphasic population of cells arranged in cribriform pattern are seen. The neoplastic cells form two types of patterns, true acini and pseudolaminate. The true acini are lined by luminal cells and are filled with PAS positive mucin. The myoepithelial cells line the

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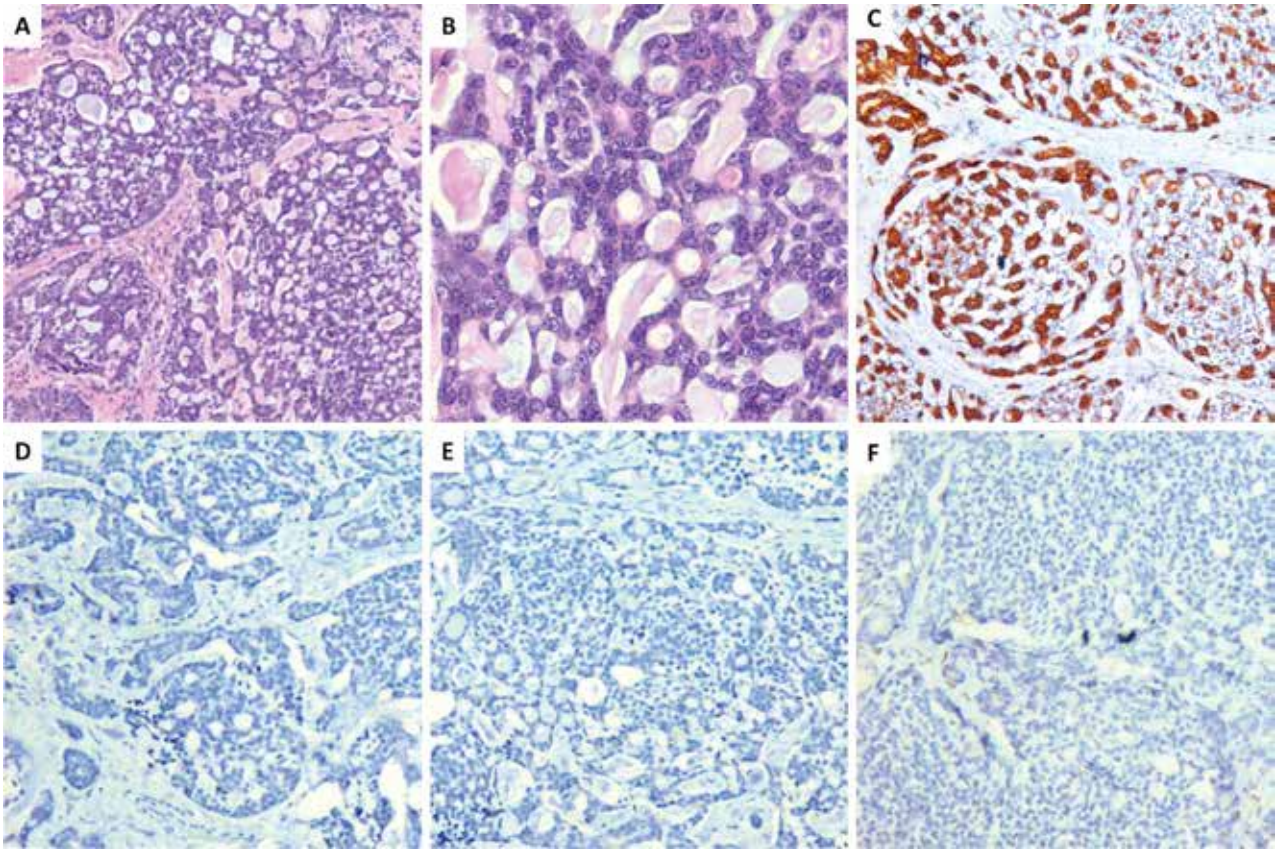
Fig. 1. A) Breast biopsy showing neoplastic cells arranged in cribriform pattern (H&E, X100). B) Breast biopsy showing basaloid cells and myoepithelial cells arranged in cribriform pattern (H&E, X400). C) Neoplastic cells show CD117 positivity. D) Neoplastic cells are negative for ER. E) Neoplastic cells are negative for PR. F, Neoplastic cells are negative for HERCEPT.



pseudolaminate and are filled with alcian blue positive acidic mucin. A third type of cells with sebaceous differentiation can also be identified [3]. ACC has been classified into three grades of tumor on the basis of the solid component as: grade 1, completely glandular and cystic; grade 2, < 30% solid component; grade 3, > 30% of solid components. All grade 3 tumors appear to behave like high grade ductal breast cancer [4].

On IHC, the cells around acini are positive for CD117 and CK5/6 while pseudoluminar cells are positive for p63.Adenoid cystic carcinomas are triple negative tumors and should be differentiated from collagenous spherulosis and invasive cribriform carcinoma on histology, staining with alcian blue , PAS and by IHC [3].

Conclusions

Diagnosis of Adenoid cystic carcinoma is important not only because it is a rare neoplasm in primary site breast but also because clinically and radiologically it mimicks well circumscribed benign lesions. Since it is associated with excellent patient survival, precise diagnosis is essential.

References

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