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CASE REPORT

ADENOID CYSTIC CARCINOMA OF BREAST – A CASE REPORT

[1,*]Syed Imtiyaz Hussain, [2]Gulshan Akhter and [1]Nausrat Ali

[1]Department of Pathology, Government Medical College, Srinagar, India
[2]Department of Gynaecology and Obstetrics, Government Medical College, Srinagar, India

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ABSTRACT

Introduction: Adenoid cystic carcinoma of the breast is a rare neoplasm constituting of 0.1% of breast carcinomas. A 40 year old female patient presented with lump in the right breast. Fine needle aspiration cytology (FNAC) of a lump in the lower inner quadrant revealed adenoid cystic carcinoma. We received specimen of modified radical mastectomy (MRM) with axillary dissection. Histopathology in our department revealed adenoid cystic carcinoma, eight lymph nodes were dissected out and all were free of tumour.

Discussion: Adenoid cystic carcinoma of the breast is a rare neoplasm and it differs from other breast carcinomas because of its favourable prognosis. This carcinoma occurs predominantly in women in their fifth decade and usually presents as a breast mass. The diagnosis was made on fine needle aspiration cytology which was latter also confirmed by histopathology. Modified radical mastectomy (MRM) was performed with axillary dissection, and eight lymph nodes were dissected out, which were free of tumour.

Conclusion: ACC is a rare malignant neoplasm. Surgical treatment is the mainstay and radiotherapy and chemotherapy have little role.

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INTRODUCTION

Adenoid cystic carcinoma (ACC) of the breast is a rare breast cancer. These tumours were first called as "cylindroma" by Billroth in salivary glands having similar histopathological picture as ACC of breast. Although ACC of the breast can occur between 30 and 80 years of age, it is more common in women in their fifth decade. Most patients comes with a palpable breast mass tender to palpation. Histologically, ACC has a unique distinctive biphasic pattern that consists of true laminate and pseudocystic spaces; true glands are lined by epithelial cells and pseudocysts are lined by myoepithelial cells. The main features of adenoid cystic carcinoma are pseudocysts, intercellular spaces, abundant basal lamina and true glandular lumens. Cytologically, the tumor shows a typical pattern: globules of mucus surrounded by epithelial cells with little cytoplasm and small hyperchromatic nuclei. ACC has a better prognosis than other forms of breast cancer and the incidence of axillary lymph node metastases is lower. Distant metastases are uncommon.

****Corresponding author: Syed Imtiyaz Hussain,***
Department of Pathology, Government Medical College,
Srinagar, India

CASE REPORT

A 40 year old female presented in the cytology section of our department with lump in the right breast for six months with no significant past history. On examination, freely mobile lump was palpable, up to 2 cm in maximal diameter. The skin of both breasts was normal. Ultrasonography and other related tests were not done. Fine needle aspiration cytology was done which shows numerous hyaline globular structures and scattered and groups of ductal epithelial cells and diagnosis of Adenoid cystic carcinoma was made. Right modified radical mastectomy with axillary lymph node dissection was received by our department and histopathology was consistent with adenoid cystic carcinoma with the surgical margins free from malignant cells. Eight lymph nodes were dissected out which were free of tumour.

DISCUSSION

ACC of the breast is a very rare malignancy, accounting for less than 0.1% of all breast neoplasms (Muslimani *et al.,* 2006). Previously termed cylindroma, ACC was initially described by Billroth in 1856 (Billroth, 1856) a few cases have also been detected incidentally on routine screening mammograms of asymptomatic patients (McClenathan, 2002).

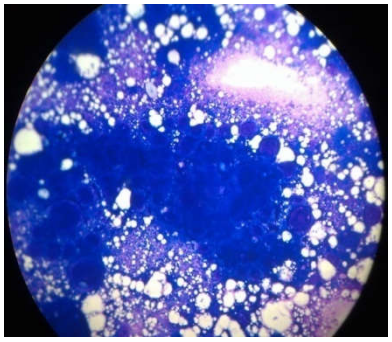

Figure 1. FNAC smear showing numerous hyaline globular structures and scattered and groups of ductal epithelial cells (40X) Giemsa stain

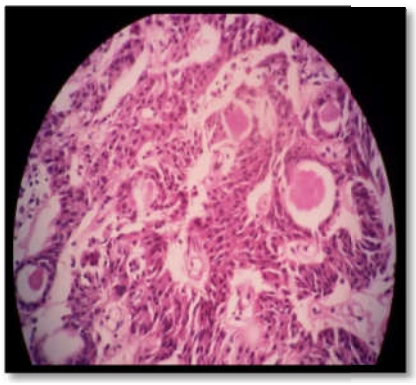

Figure 2. High magnification (40x) microscopic picture of ACC stained by H&E stain. Showing neoplastic basaloid cells, arranged in solid, cribriform, tubular and trabecular pattern, cystic spaces are seen to contain eosinophilic basement membrane material. The cells have relatively uniform dark staining nuclei and amphophilic to clear cytoplasm

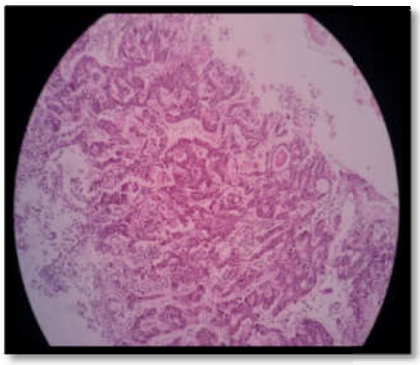

Figure 3. Low magnification (10x) microscopic picture of ACC stained by H&E stain. Showing neoplastic basaloid cells, arranged in solid, cribriform, tubular and trabecular pattern, cystic spaces are seen to contain eosinophilic basement membrane material. The cells have relatively uniform dark staining nuclei and amphophilic to clear cytoplasm

It is of special interest because of its favorable prognosis and distinctive histological appearance (Anthony and James, 1975). Most ACC are well circumscribed and firm. The diagnosis can be made on fine needle aspiration cytology (Culubret and Roig, 1996; Stanley *et al.,* 1993). The smears are highly cellular and contain extracellular spheres of metachromatic material surrounded by uniform cells with scant cytoplasm, Ro *et al.* suggested that ACC of the breast can be graded on the proportion of solid growth of the tumor and this was correlated with prognosis (Ro *et al.,* 1987). Grades proposed were 1 (no solid element); grade 2 (< 30 % solid element); grade 3 (>30% solid element).The diagnostic criteria for breast-ACC includes the presence of a biphasic cellular pattern of myoepithelial and epithelial cells (basaloid and ductal) (Azumi and Battifora, 1987; Zaloudek *et al.,* 1984). The basaloid cells line the "pseudo-cysts," which contain amorphous eosinophilic material. True glandular lumens are also seen, lined by epithelial cells with more abundant eosinophilic cytoplasm and round nuclei (Malley, 2010). Fine needle aspiration cytology can pick up many rare diseases depends upon how much material aspirated and site of the lesion but far superior is fine needle aspiration biopsy

Conclusion

ACC is rare neoplasm and surgery is main stay of treatment. Surgery is the main stay of treatment with less role of chemotherapy and hormonal treatment. And it differs from other variants of breast carcinoma because of its favourable prognosis and less lymph node involvement.

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