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## CASE REPORT

### Primary Adenoid Cystic Carcinoma of the Breast: A Case Report

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#### ABSTRACT

Adenoid cystic carcinoma of the breast is a rare neoplasm accounting for 0.1% of all breast carcinomas and presenting most commonly as a painful breast mass. Adenoid cystic carcinomas of the breast have a favourable prognosis, as compared to the aggressive nature of the adenoid cystic carcinoma at other sites. The treatment for this is simple mastectomy. We present here, a case of adenoid cystic carcinoma of the breast in a 48 year old female who presented with pain in the subareolar region and was managed with modified radical mastectomy, with lymph node dissection.

**Key Message:** Adenoid cystic carcinoma of the breast has a favourable prognosis and should therefore, be differentiated from cribriform carcinoma.

**Key Words:** Breast, Adenoid cystic carcinoma

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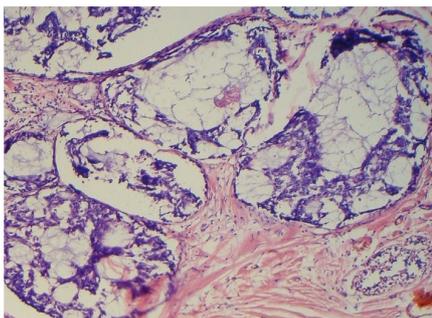
#### Introduction

Adenoid cystic carcinoma of the breast is a rare breast cancer variant and is histologically identical to its counterpart in the salivary gland. However, these carcinomas of the breast are associated with a very favourable prognosis [1],[2].

#### Case Report

A 48 year old female patient presented with a small tender lump in the inferior quadrant of her right breast. Initial mammography and ultrasonography of the breast were inconclusive. Her past medical history was insignificant. Her family history was negative for breast cancer. Two weeks later, an examination showed no change in the size of the breast, but

there was increased tenderness. No erythema, ecchymosis, or skin ulceration were seen. An excisional biopsy showed adenoid cystic carcinoma. She subsequently underwent a modified radical mastectomy with axillary node dissection. Grossly, the mastectomy specimen measured 15x14x5 cm, with an attached axillary pad of fat. On serially cutting through the base, a well circumscribed, firm, grey-white growth measuring 2.5 cm in maximum diameter was identified in the inferior quadrant. Eleven lymph nodes were dissected out from the axillary fat. On microscopic examination, the tumour showed the characteristic "cribriform" pattern and was composed of basaloid cells with scanty cytoplasm. The glandular lumina were filled with basophilic mucinous material and was diagnosed as adenoid cystic carcinoma [Table/Fig 1]. The margins, skin, as well as the nipple were free of tumour infiltration. Both, the nuclear grade of the lesion and the Bloom Richardson grade were 1. The lymph nodes were negative for tumour metastasis. The tumour was staged as T1N0M0. The patient is well without any evidence of recurrence or distant metastasis at 6 months of follow-up.



(Table/Fig 1) Adenoid cystic carcinoma of the breast, showing the characteristic cribriform pattern with some lumen containing bluish material. (H & E stain, 400x)

## Discussion

Adenoid cystic carcinoma of the breast is a rare neoplasm accounting for 0.1% of all breast carcinomas [3]. Although adenoid cystic carcinoma of the breast can occur between 30-90 years of age, it is more common in women in the fifth and sixth decade of life [2]. Most patients present with a dominant breast mass which is tender to palpation [4],[5]. Most adenoid cystic carcinomas are well circumscribed, firm and range from 1-5 cm in size. Although calcification may develop in these tumours, only infrequently can they be detected by mammography. The diagnosis can be made on the basis of fine needle aspiration cytology [6]. The smears are cellular and contain extracellular spherules of metachromatic material surrounded by uniform cells with scant cytoplasm. Histologically, adenoid cystic carcinoma arises from myoepithelium like cells and ducts. Dense mucoid material, ultrastructurally resembling the dense lamina of the basal membrane, is found in glandular structures. The solid areas constitute less than 10% of the tumour tissue [7]. True adenoid cystic carcinoma of the breast shows two types of cavity formation: true glandular lumina and the well known eosinophilic “cylinders” containing eosinophilic basement membrane material and basophilic mucin [8]. The mucin stains are of value; the large cystic spaces contain hyaluronidase sensitive, alcian blue positive mucin that does not stain with PAS, whereas the small, indistinct, true glandular spaces contain PAS positive diastase resistant mucin. Hormone receptors tend to be absent [9]. However, oestrogen receptor

positivity rates of 26% to 46% were reported in two series [1],[2]. Axillary lymph node metastases are extremely rare [10]. Distant metastases are uncommon. However, when they occur, they tend to do so without prior lymph node involvement.

The differential diagnosis includes intraductal carcinoma with cribriform pattern [11] or collagenous spherulosis. The best surgical treatment for adenoid cystic carcinoma of the breast has not been established. Local excision is followed by unacceptably high rates of recurrence [12]. Simple mastectomy or lumpectomy, followed by radiation treatment is thought to have a chance to achieve adequate local control of nearly all tumours [13]. Despite its infrequent use, our patient had a modified radical mastectomy with axillary node dissection and she is well without recurrence or metastasis at 6 months of follow-up.

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