



## Sebaceous Carcinoma of Breast: A Rare Case Report

### KEYWORDS

sebaceous carcinoma, breast

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**ABSTRACT** Sebaceous carcinoma is a distinctive breast carcinoma characterized by unequivocal morphologic differentiation towards sebaceous epithelium or sebocytes, whereas its cutaneous counterpart is better described most commonly in ocular and only occasionally in extraocular regions. Only nine examples of this rare mammary tumor have been reported.

### Introduction

Sebaceous differentiation in a mammary carcinoma is a very rare phenomenon [1]. Sebaceous carcinoma is a distinctive breast carcinoma characterized by unequivocal morphologic differentiation towards sebaceous epithelium or sebocytes, whereas its cutaneous counterpart is better described most commonly in ocular and only occasionally in extraocular regions [2]. According to the current WHO classification, primary sebaceous carcinoma of the breast must show sebaceous differentiation in at least 50% of cells and have no evidence of origin from the cutaneous adnexa [1]. This carcinoma is characterized by a lobular or nested growth pattern of tumor cells variably admixed with those displaying sebaceous differentiation [3]. In this case report we describe the histopathological features of sebaceous carcinoma of breast in an elderly female.

### Case report

80 year female came to our hospital with lump in her left breast since 4 months, which was soon followed by discharge from the lump and pain in the breast. On local examination an ulcer was noticed over nipple. Skin over the lump was tender. After taking careful history, fine needle aspiration cytology (FNAC) was performed on breast lump. FNAC Report was suggestive of infiltrative ductal carcinoma. Haematological parameters were normal in range. Patient underwent surgery for breast lump. We received breast mass with axillary lymph nodes.

### Materials & methods

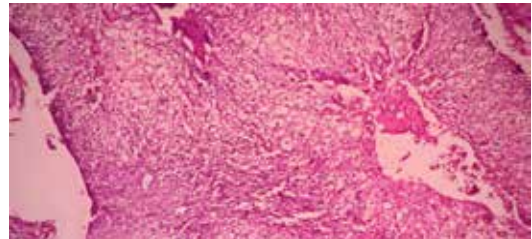
The specimen was preserved in 10% formalin & was processed with increasing gradient of alcohol and acetone. Paraffin blocks were prepared and tissue sections were taken by using rotary microtome. Staining was done by using haematoxylin and eosin. After establishing preliminary diagnosis immunohistochemistry was performed for oestrogen receptor (ER), progesterone receptor (PR), pancytokeratin and her2neu receptor.

### Results

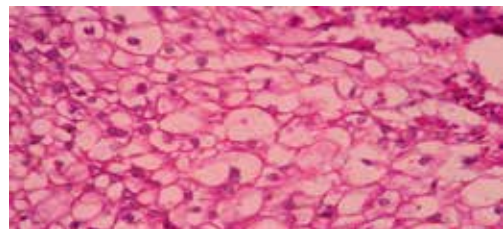
Macroscopically it was an irregular growth partially covered by skin which measured about 6x3x3cm, friable and soft in consistency. Cut surface showed greyish white and few cystic areas. Surgical margins appeared to be free of tumor. Ten lymph nodes were dissected from the specimen and grossly appeared to be uninvolved. On histopathology, it showed tumor cells arranged in irregular nests and lobules with sebaceous differentiation, having vacuolated

cytoplasm. These cells were surrounded by other smaller ovoid cells having eosinophilic cytoplasm. All the lymph nodes showed follicular hyperplasia and were free of tumor invasion. Immunohistochemistry was done and pancytokeratin turned out to be positive whereas oestrogen receptor and progesterone receptor as well as her 2 neu were negative.

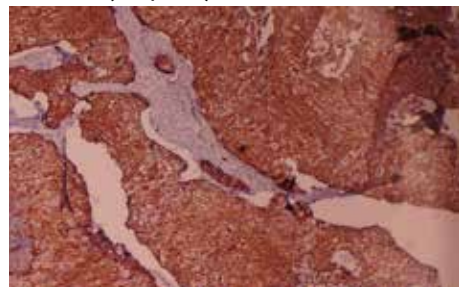
**Figure 1. Section showing tumor cells in lobules and clusters in sebaceous carcinoma (H & E stain, 10 x).**



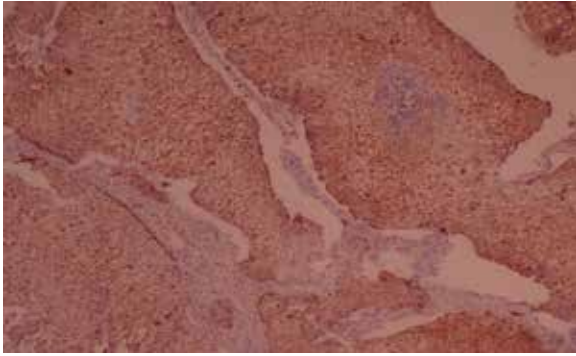
**Figure 2. Section showing tumor cells showing sebaceous differentiation having vacuolated cytoplasm (H & E stain, 40 x)**



**Figure 3. Section showing cytokeratin positivity of tumor cells (IHC, 10X)**



**Figure 4. Scetion showing her2neu receptor positivity of tumor cells (IHC, 10X)**



### Discussion

Sebaceous carcinoma is a carcinoma with prominent sebaceous differentiation. There should be no evidence of origin from cutaneous adnexal sebaceous glands [4]. Primary sebaceous carcinoma of the breast is a very rare tumor. It was proposed that SC represents a rare variant of metastatic breast carcinoma [1]. Carlucci et al. observed sebaceous differentiation in a triple-negative carcinoma with ductal, squamous, adenosquamous and spindle cell differentiation in the primary tumor and additional osteochondroid differentiation in the metastasis, respectively [5].

The recent WHO classification characterizes SC of the breast as primary carcinoma of the skin of adnexal type with sebaceous differentiation [6]. Only nine examples of this rare mammary tumor have been reported [7]. These tumors occurred in patients across a wide age range (25-85 years, including our cases) [1]. Microscopically it shows well-defined solid sheets or lobules of atypical epithelial cells, including large, pale or clear cells with coarsely vacuolated cytoplasm [8].

In our case, tumor cells were arranged in irregular nests and lobules, having vacuolated cytoplasm and also were surrounded by other smaller ovoid cells having eosinophilic cytoplasm. Squamous differentiation and comedo-like necrosis have also been reported in some of the mammary SC [6]. Tumor cells stain for keratins, and ER, PR, androgen receptor and HER2 can be expressed [7]. In our case tumor cells were positive for pancytokeratin, HER2 and were negative for ER and PR.

### Prognosis

Not much is known about the behaviour and prognosis of mammary SC. Two reported cases showed metastasis in one regional lymph node; three cases had negative lymph nodes [1]. One reported patient had skin and bone metastasis 10 years after surgery [6]. Complete excision of the tumor was done in our case along with the regional lymph node dissection and all the lymph nodes dissected were free of tumor invasion. There are diverse opinions regarding the use of postoperative irradiation and chemotherapy.

Therefore it can be believed that sebaceous carcinoma is very aggressive tumor and appropriate measures should be taken while giving a diagnosis and treating patient.

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