

Papillary Carcinoma of Breast – A Case Report of a Rare EntityDr. M. Maghizh Jemima^{1*}, Dr. P. Karkuzhali², Dr. Saisudha³¹Post graduate, Department of Pathology, Sree Balaji Medical College, 7, Works Road, Shankar Nagar, Chromepet, Chennai, Tamil Nadu, India²Professor and HOD, Department of Pathology, Sree Balaji Medical College, 7, Works Road, Shankar Nagar, Chromepet, Chennai, Tamil Nadu, India³Assistant professor, Department of Pathology, Sree Balaji Medical College, 7, Works Road, Shankar Nagar, Chromepet, Chennai, Tamil Nadu, India***Corresponding author**

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Abstract: Papillary breast cancer is a very uncommon form of infiltrating ductal breast cancer. The term 'papillary' literally means 'nipple-like'. Hence, the characteristic histology of this cancer is presence of papillary projections, occurring in the lumens of the ductal-lobular system. This is a malignant neoplasm and generally presents as a well circumscribed mass. The incidence is about 0.5% of all ductal cancers. Here, we report a case of 65 years old, menopausal woman who was found to have a papillary cancer in the right breast with associated pagetoid spread to the nipple and areola. The patient did not have any nodal metastasis or systemic metastasis. The overall prognosis of papillary cancer is slightly better, when compared to IDC – NOS.

Keywords: Papillary carcinoma, breast carcinoma, ductal carcinoma.

INTRODUCTION

Papillary breast cancer represents less than 2% of all invasive breast cancers and <1% of all ductal cancers. Clinical presentations include clear or blood stained nipple discharge, an abnormal mass, or radiographic abnormalities. Characteristic histological feature is the presence of arborescent fibrovascular cores, lined by malignant epithelial cells. It is most often seen as a circumscribed mass, with cystic areas [1]. Mammography and ultrasonography can usually identify papillary carcinoma, but fine needle aspiration biopsy may not be very useful as cyst fluid can hinder appropriate diagnosis.

CASE REPORT

A 65 years old menopausal woman, presented with complaints of swelling in the right breast of 6 months duration, which was insidious in onset, gradually progressive with no history of breathlessness, chest pain or bone pain. On local examination the lump was found to be 10x5x3 cm in size, mobile and hard in consistency. The surface was nodular and the lump was seen moving along with breast and no palpable lymph nodes were detected. A simple right mastectomy was done by the Department of General Surgery, SBMCH. The mastectomy specimen was then sent for histopathological examination.

Gross Description

Received right simple mastectomy specimen measuring 16x13x11cm with overlying elliptical skin measuring 13 x 8 x 0.5cm including nipple and areola. External surface of skin and nipple areolar complex appeared normal. On cut section, the tumor was found to be multicystic and multiloculated with haemorrhagic areas within cysts and in solid areas. Papillary projections were seen in both cystic and solid areas

(Fig-1). The tumor measured 11 x 10.5 x 8cm and occupied the upper and lower outer quadrant predominantly. Tumor margins were well defined and irregular, and the tumor was seen extending upto 1cm from the lateral margin and deep resected margin, 5cm from medial margin, 1.5cm from the superior margin, and 0.5cm from the inferior margin.

DISCUSSION

Malignant papillary proliferations include a gamut of lesions ranging from in-situ to invasive lesions. Papillary carcinomas of the breast are rare, accounting for less than 2% of ductal breast cancers and few histological types such as encapsulated papillary carcinoma, solid papillary carcinoma and invasive papillary carcinoma form the spectrum of the above entity. Invasive papillary carcinomas constitute 0.5% of all ductal cancers [2]. In most cases, these types of tumors occur in older women with an average age of 65 years who have already been through menopause. A papillary carcinoma usually is a circumscribed, round mass with well-defined borders and is made up of small, finger-like projections. Majority of the cases

have localized involvement (89.6%). Histologically, the lesion is well circumscribed, with the involved duct surrounded by a thick fibrous capsule. It is characterized by a slender, branching fibrovascular stalks covered by neoplastic epithelial cells filling the ducts and terminal-duct lobular units. The neoplastic cells may be arranged in single or multiple layers of columnar cells overlying the stalks in an orderly manner and with a deceptively bland appearance, known as the

stratified spindle cell pattern [3]. The tumour cells can also form micropapillary, cribriform or solid structures obscuring the spaces between the papillary fronds. The tumour cells usually display low or intermediate grade nuclear features. There are no or scant myoepithelial cells interposed between the core and the epithelial proliferation. The absence of myoepithelial cells helps to distinguish benign and malignant papillary proliferations of the breast.



Fig-1: Cut surface showing cystic and solid, hemorrhagic areas with granular surface

Microscopic Features

Multiple, paraffin embedded, H & stained sections studied showed a multiloculated, cystic mass with locules filled with haemorrhagic and fibrinous necrotic material. The cysts were of varying sizes and showed complex, papillary processes of lining epithelium projecting in to the lumens (Fig-2). The lining epithelium of the cysts and papillary projections

were columnar in nature, and the nuclei showed stratification, enlargement and hyperchromaticism. Some nuclei were vesicular (Fig-3). All the margins were free of tumor infiltration. Nipple and areola showed irregular hyperplasia of squamous epithelium and presence of single or groups of large, round to oval vacuolated cells with hyperchromatic, pleomorphic, eccentric nuclei (Fig-4).

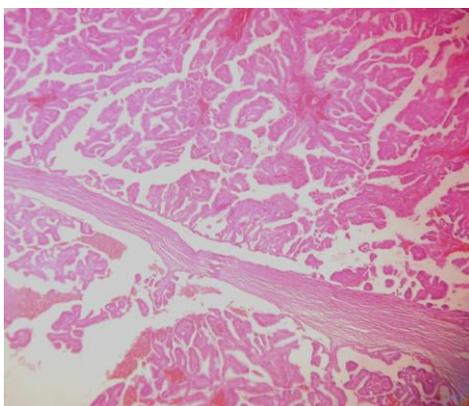


Fig-2: H&E. 10x. Cysts showing complex papillary processes in the lumens

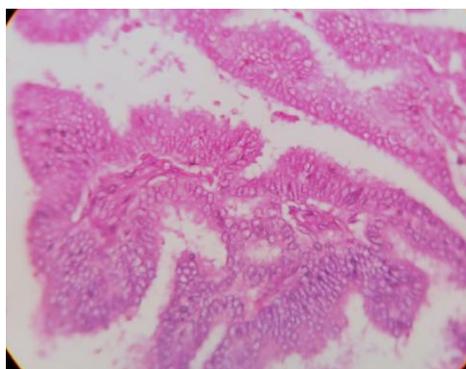


Fig-3: H&E. 40x. Papillary projections showing nuclear stratification, nucleomegaly and vesicular nuclei

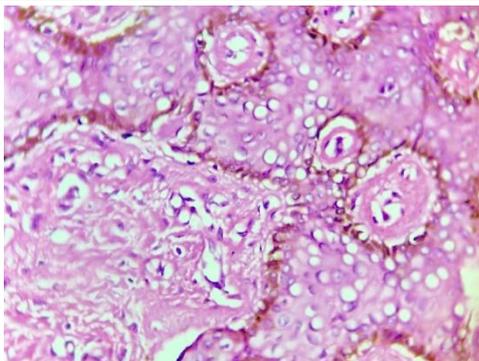


Fig-4: H &E, 40x. Squamous epithelium of the nipple and areola, containing round to oval, vacuolated, malignant cells

Immunohistochemistry P63 reveals the absence of expression of myoepithelial cell markers along the papillary fronds and shows positive staining for the same markers at the periphery of the involved ducts. Moreover, the neoplastic cell population is devoid of the expression of high molecular weight keratin, but is strongly positive for estrogen and progesterone receptors [4].

Treatment for papillary carcinoma often consists of a combination of surgery, radiation, chemotherapy and hormone therapy and/or therapy that targets the HER2 protein.

Papillary carcinoma though rare, carries an excellent prognosis because of the advantage of positivity for hormonal receptors, slow growth and less incidence of lymph node metastasis [5].

CONCLUSION

This entity is rare, as the incidence is 0.5%, as per our institute statistics and as per literature statistics. Grossly, the tumor can be mistaken for malignant angiomatous lesion, as in this case. Histologically the solid type is difficult to diagnose as papillary lesion. As the prognosis is good, it is important to distinguish this

lesion histologically from the ductal carcinoma, not otherwise specified and also from other rare, aggressive ductal cancers.

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