International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Case Report

Papillary Carcinoma Breast: A Case Report

Shobha SN[1], Renbeni Kithan[2]

[1]Assistant Professor, [2]Pathologist,
Adichunchunagiri Institute of Medical Sciences, BG Nagar, Mandya, Karnataka, India.

Corresponding Author: Shobha SN

Received: 27/05/2015 *Revised: 19/06/2015* *Accepted: 23/06/2015*

ABSTRACT

Papillary breast cancer represents approximately 0.5% to 1% of the invasive breast cancers. Most commonly seen in post-menopausal females and rarely in males also. Typically presents with bloody nipple discharge, an abnormal mass, or radiographic abnormalities. A 60 years old female presented with a lump in the left breast. A cytologic impression of papillary lesion, possibly malignant was rendered. Histologic examination showed features of a papillary carcinoma. Papillary lesions are a heterogeneous group of breast lesions and include benign and malignant papillary lesions like papilloma, papillomatosis, atypical papilloma, non-invasive ductal carcinoma and invasive ductal carcinoma.

Conclusion: Papillary carcinoma with the advantage of being ER and PR positive, slow growing , less chances of lymph node metastasis, carries a excellent prognosis than other histological types, hence its proper diagnosis is important even though it is a rare entity

Key words: Intraductal, Papillary, Ductal carcinoma, Myoepithelial cells.

INTRODUCTION

Papillary breast cancer represents 0.5% to 1% of the invasive breast cancers. It is common in post-menopausal females and rare in male. Typically presents with bloody nipple discharge, an abnormal mass, or radiographic abnormalities. Histogenitically they are derived from ductal epithelial cells. The name comes from finger-like projections, with a fibrovascular core when seen under the microscope

Distinction of invasive papillary carcinoma from non-invasive forms is critical, as each entity carries a unique prognosis. [1]

CASE REPORT

A 60 years old female presented with a lump in the left breast since 2 yrs with history of increase in size since one month

Physical examination revealed a 3 cm, well-circumscribed mass, firm and painless, in the lower internal quadrant of the left breast. There were no axillary nodes. On sonography the mass was heterogeneous with solid and cystic components.

Mammography showed a round regular opacity, without calcification FNA smears were highly cellular showing cohesive clusters, complex papillary fragments and few singly dispersed intact cells. The tumor cells had hyperchromatic nuclei, prominent nucleoli and mild nuclear pleomorphism. A cytologic impression of

papillary lesion, possibly malignant (in view of high cellularity, complex papillae and single intact cells) was rendered. **Fig 1,2**

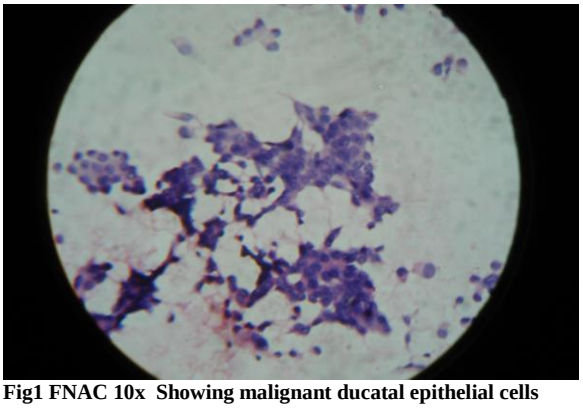

Fig1 FNAC 10x Showing malignant ducatal epithelial cells arranged in papillary structures

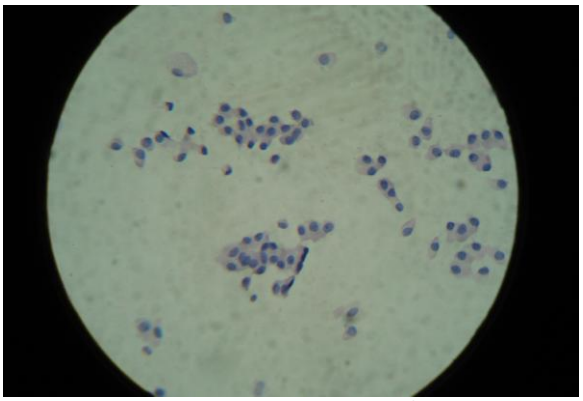

Fig 2.FNAC 40x Showing columinisation of the tumor cells.

The patient underwent left simple mastectomy.

On gross examination, a grey-white tumor, 4 × 3.5 × 2 cm , well circumscribed, unencapsulated and firm in consistency. No hemorrhage or necrosis was seen. **Fig 3**

Fig 3. Gross picture of the mastectomy specimen.

Histologic examination showed features of a papillary carcinoma with papillary architecture having true fibrovascular core and lined by oval to round cells perpendicular to the axis of papillae. The cells had basally located hyperchromatic nuclei. And focus of invasion in to the stroma was seen. The resected margins were not involved by the tumor.**Fig 4,5**

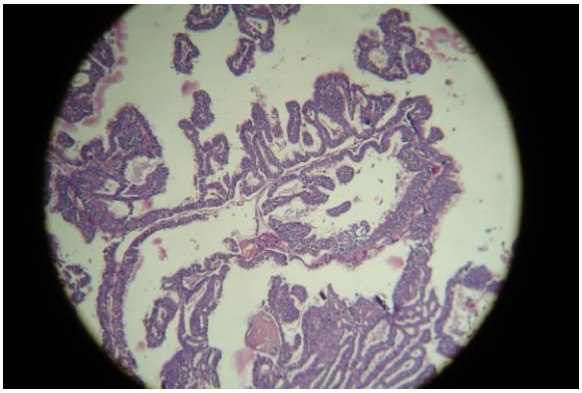

Fig 4 H&E 10x Histopathology Tumor cells in papillary arrangement

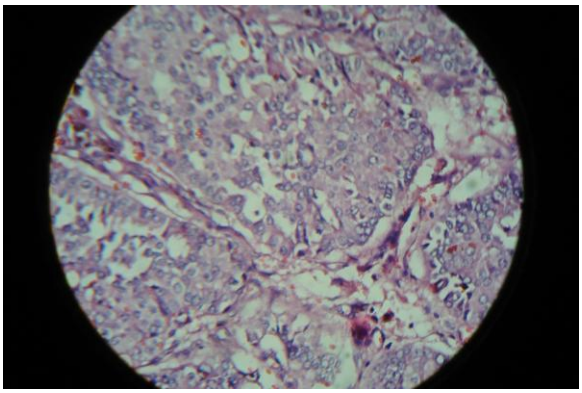

Fig 5. Histopathology 40x showing malignant cells arranged perpendicular to papillary fronds.

The patient has been recurrence-free after 1 year of follow up.

DISCUSSION

Papillary lesions of the breast comprises a spectrum of disease entities, with a common morphologic pattern of consisting of many fibrovascular stromal

cores lined by epithelial cells, with a variable layer of intervening myoepithelium.

The correct differentiation of these entities is important, as the management and prognostic implication is different between benign and malignant diagnoses. [2]

Papillary carcinoma of the breast is a rare malignant tumor, constituting 0.5-1% of all breast carcinomas in women. It is distinguished by the papillary structural design: proliferation characterized by finger-like projections or fronds composed of central fibrovascular cores covered by epithelium, without myoepithelial cell layer (which differentiate between benign and malignant papillary lesion).

Clinically, it presents as a mass, with a bloody nipple discharge, and in some cases, it can be asymptomatic and revealed by systematic mammography. Axillaries nodes are infrequent At the mammography, the intracystic papillary carcinoma appears as a round, oval, or lobulated opacity.

On ultrasonography, the lesion might have an indistinct border or microlobulation, which might suggest that it is malignancy.
The magnetic resonance imaging (MRI) is sensitive but not specific in detecting papillary tumors.

The combination of a residual palpable mass and a frankly bloody aspirate at the fine needle aspiration is a strongest indicator of carcinoma.

Core needle biopsy has a low accuracy for distinguishing between in situ or invasive papillary carcinoma because the site of biopsy is generally central while the invasion is usually found in the periphery of the tumor.[1]

Pathologic Features

Papillary lesions are a heterogeneous group of breast lesions and include benign and malignant papillary lesions like papilloma, papillomatosis, papilloma with DCIS, non-invasive ductal carcinoma and invasive ductal carcinoma. [3]

In benign papilloma there is prominent papillary pattern with well formed fibrovascular cores, there is mixed epithelial and myoepithelial cells. The epithelial nuclei are normochromatic. The papillae are prominent and fibrotic, and apocrine metaplasia may be seen.

Malignant papillary neoplasms of the breast comprise a number of microscopically distinct lesions including ductal carcinoma in situ (DCIS) arising in an intraductal papilloma, papillary DCIS, enscapsulated papillary carcinoma, solid papillary carcinoma, and invasive papillary carcinoma. All malignant papillary proliferations of the breast lack an intact myoepithelial cell layer within the papillae, an important feature which allows distinction from benign intraductal papillomas.

Papillary DCIS is characterized by the presence of fibrovascular fronds lined by neoplastic epithelium. The lining epithelium is typically comprised of monomorphic, stratified columnar cells; however, solid, cribriform, or micropapillary proliferations may also be observed. Nuclei are usually of low or intermediate grade.

Encapsulated papillary carcinoma, also known as intracystic papillary carcinoma, is the term used to describe a solitary, centrally located malignant papillary proliferation involving a cystically dilated duct. Histologically, the lesion is well circumscribed, with the involved duct surrounded by a thick fibrous capsule.

A minority of encapsulated papillary carcinomas may be associated with a component of invasive carcinoma (invasive carcinoma arising in an encapsulated papillary carcinoma). The invasive component is characterized by an infiltrative appearance and an associated stromal reaction.

Solid papillary carcinoma appears microscopically as well circumscribed,

densely cellular, expansile nodules of epithelial cells. The neoplastic cells are monotonous oval or spindle shaped, exhibit low to intermediate grade nuclear atypia. Many cases exhibit neuroendocrine features characterized by argyrophilia and immunoreactivity for chromogranin A. Associated intracellular and extracellular mucin is also a common finding [4]

The term invasive papillary carcinoma is reserved for infiltrating breast carcinomas exhibiting an exclusively papillary morphology.

Encapsulated and solid papillary carcinomas are not currently classified as invasive papillary carcinomas. Invasive papillary carcinoma should not be confused with invasive micropapillary carcinoma, which is a clinically and pathologically separate entity. In contrast with invasive papillary carcinoma, the latter, morphologically lacks true fibrovascular cores, and is characterized by neoplastic cells arranged in solid nests or tubules surrounded by clear spaces. The distinction of these two has relevant clinical implications as the latter is considered an aggressive form of mammary carcinoma frequently associated with lymph-vascular invasion and axillary lymph node metastases.

Pathologic characterization of papillary lesions of the breast is based primarily on morphologic considerations. In particular, loss of myoepithelial cells within the fibrovascular papillae is the most important feature for the identification of malignant papillary proliferations and their separation from benign intraductal papillomas. As such, immunohistochemistry is often utilized as an adjunct for evaluating the presence and distribution of myoepithelial cells in papillary neoplasms of the breast. [1]

Focal or patchy areas of immunoreactivity may be present in cases of DCIS arising within a preexisting benign intraductal papilloma.

There are a number of markers that identify myoepithelial cells, the most useful of which include calponin, smooth muscle myosin heavy chain, and p63. Most laboratories thus employ a panel of several myoepithelial cell markers when evaluating difficult papillary lesions. [3]

And these papillary breast carcinoma are ER, PR Positive, with usually no lymphnode metastases and hence carries a good prognosis. [5]

Papillary Carcinoma in Males

A number of series indicate a greater incidence of papillary carcinoma amongst males. Amongst various histologic subtypes assessed, only papillary in situ breast cancer and invasive architectural types were more common in men. [6]

CONCLUSION

Papillary carcinoma with the advantage of being ER and PR positive, slow growing, less chances of lymph node metastasis, carries a excellent prognosis than other histological types, hence its proper diagnosis is important even though it is a rare entity.

REFERENCES

1. Sumanta K.Pal, Sean K, Laura Kruper. Papillary Carcinoma of Breast. Breast cancer Res Treat 2010;122(3): 637-45
2. Benkaddour Y A, Hasnaoui S K, Fakhir B, Jalal H, Kouchani M, Aboulfalah A. Intracystic Papillary Carcinoma of the Breast: Report of Three Cases and Literature Review. Case Reports in Obstetrics and Gynecology 2012;133(4):122-26.
3. Prathiba.D.Roa, S.Kshijita K, Joseph LD. Papillary Lesions of Breast- An introspect of cytomorphological features. Journal of Cytology 2010;27 (1):12-6.

4. Saremian J, Rosa M. Solid Papillary Carcinoma of the Breast A Pathologically and Clinically Distinct Breast Tumor. Arch Pathol Lab Med 2012 Oct;136(10):1308-11.
5. Rakha, Emad A , Gandhi. Encapsulated Papillary Carcinoma of the Breast: An Invasive Tumor With Excellent Prognosis. American Journal of Surgical Pathology 2010;35(8): 1093-103.
6. Arora R, Gupta R, Sharma A, Dinda AK. Invasive papillary carcinoma of male breast. Indian Journal of Pathology and Microbiology.2010; 53 (1): 135-7.

How to cite this article: Shobha SN, Kithan R. Papillary carcinoma breast: A case report. Int J Health Sci Res. 2015; 5(7):517-521.

****