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Papillary carcinoma of breast with apocrine change clinically masquerading as fibroadenoma

Swagata Dowerah[1*], Momota Naiding[1], Sikha Agarwal[1]
1.Deptt Of Pathology, Silchar Medical College, Assam, India

ABSTRACT

Invasive papillary carcinomas comprise 1-2% of all invasive cancers of breast and are associated with a good prognosis. We report a case of invasive papillary carcinoma of breast with apocrine change and apocrine adenosis , clinically masquerading as a fibroadenoma of breast. A 34 year old woman complained of swelling in the right breast of 4 years duration. A clinical diagnosis of fibroadenoma/ carcinoma? was given . FNA gave a diagnosis of a cystic breast lesion. Patient underwent lumpectomy and specimen was sent to histopathology. On gross examination, four separate swellings were seen, largest measuring 5x4x3 cms and the smallest measuring 1x1x1cm. H& E stained sections of the larger swelling showed tumor cells arranged in papillary structures with fibrovascular core, invading into the surrounding stroma. Areas of apocrine adenosis were also noted. Immunohistochemistry for SMA was done and showed absence of myoepithelial cells in areas of invasive papillary cancer. Papillary carcinoma is a rare malignancy of the breast which may be missed clinically and on aspiration cytology. In doubtful cases, immunohistochemistry may be necessary to arrive at a definitive diagnosis.

Keywords: Papillary Carcinoma, Breast, Apocrine Change, Fibroadenoma

*Corresponding Author Email: swagatadowerah@gmail.com
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INTRODUCTION

Intracystic papillary carcinoma is defined as a variant of intraductal papillary carcinoma which is located in a large cystic duct and shows thin fibrovascular cores lacking myoepithelial cells with neoplastic cells showing features of a low grade DCIS[1]. They comprise less than 2% of breast carcinomas with an average age of occurrence of 65 years and a range of 34-92 yrs[1]. When intraductal carcinomas invade, they generally assume the features of an infiltrating ductal carcinoma . These invasive tumors comprise 1-2% of all invasive cancers of breast and are associated with a good prognosis[2,3] Apocrine adenosis refers to the presence of apocrine metaplasia in adenosis in more than 50% of this change and may be associated with some degree of nuclear enlargement. However
the presence of a myoepithelial layer helps to exclude the possibility of invasive carcinoma[4]. However it has been noted that cells of invasive papillary carcinoma can also exhibit apocrine features. We report a case of invasive papillary carcinoma of breast with apocrine change and apocrine adenosis , clinically masquerading as a fibroadenoma of breast.

Case history:

A 34 year old woman complained of swelling in the right breast of 4 years duration. On examination, swelling was non tender, firm and measured around 3 x 3 cms. A clinical diagnosis of fibroadenoma/ carcinoma was given and FNA was performed. On FNA, a diagnosis of a cystic breast lesion was given . Patient underwent lumpectomy and specimen was sent to histopathology. On gross examination, four separate swellings were seen, largest measuring 5x4x3 cms and the smallest measuring 1x1x1cm. The larger swelling was cystic while the other three were solid, greyish white in colour. H& E stained sections of the larger swelling showed tumor cells arranged in papillary structures with fibrovascular core, invading into the surrounding stroma. The cells had moderate cytoplasm, pleomorphic nuclei with high nucleocytoplasmic ratio. Areas of apocrine adenosis were also noted along with a foci of papillary carcinoma in situ. Immunohistochemistry for SMA was done and showed absence of myoepithelial cells in areas of invasive papillary cancer. Sections from the other swellings showed picture of fibroadenoma of breast with fibrocystic change.

Figure 1: showing gross appearance of the excised masses

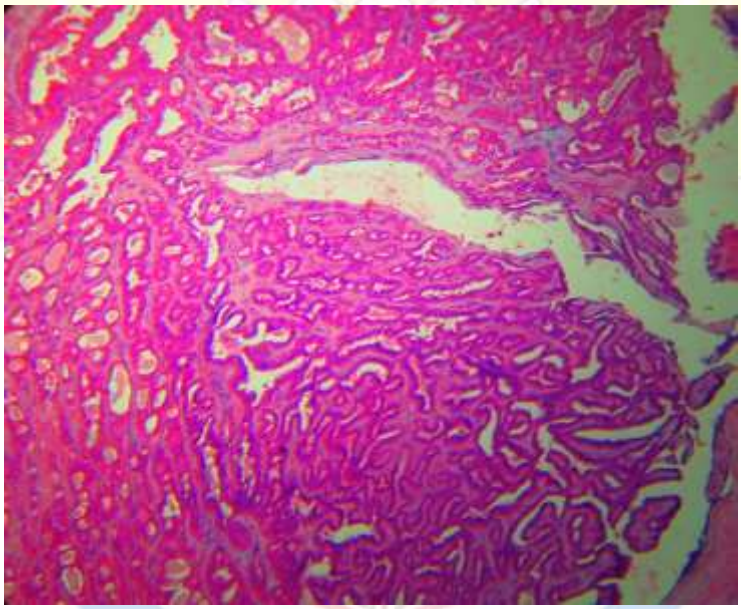

Figure 2: showing papillary carcinoma with invasion into stroma (H&E, 10X)

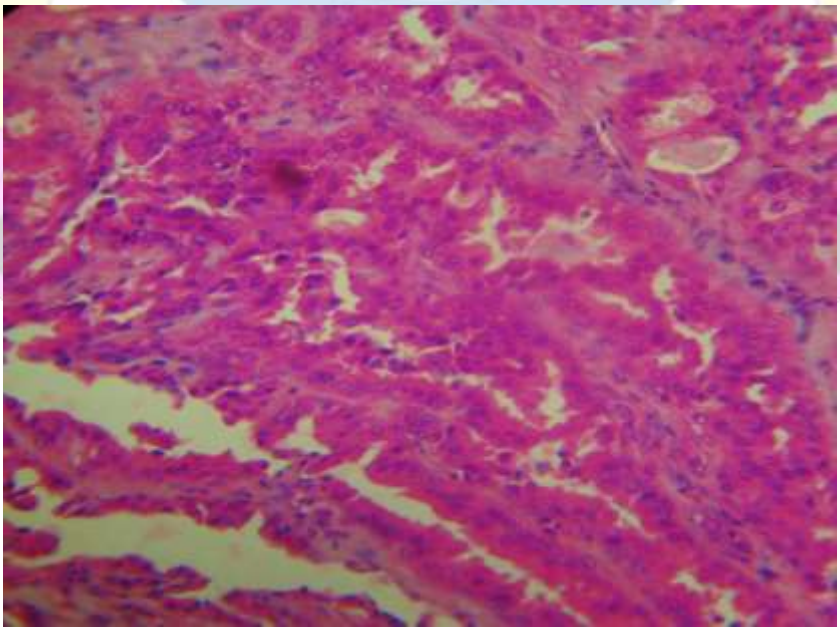

Figure 3: showing papillae under higher magnification (H&E,40X)

Papillary lesions of the breast comprise of intraductal papilloma, papillomatosis, atypical papilloma , carcinoma arising in a papilloma, and intraductal papillary carcinoma (with or without invasion)[5]. Differentiating between these is often challenging to the pathologist. While the complete absence of the myoepithelial cells denotes a carcinoma, the presence of the same cannot reliably rule out the possibility of malignancy[6] In our case, immunohistochemistry for SMA was done which showed lack of myoepithelial cells in areas of invasion while in other areas, positive staining was seen.

Fisher et al reported that invasive papillary cancers are grossly circumscribed lesions in a two third of cases. Microscopically, they show delicate or blunt papillae with solid foci at places. Although the cytoplasm is typically amphophilic, apocrine features have also been noted. This may cause confusion sometimes in cases with pre existing apocrine adenosis as was seen in our case. Generally, these tumors are histologically grade 2[7]. However our case was a grade 1 tumor showing marked apocrine changes at places along with an in situ component which was clearly papillary.

These invasive tumors are diagnosed mostly in post menopausal women and mammographically they show multiple nodular densities which may be lobulated[7] On fine needle aspiration cytology, these lesions may be misdiagnosed as fibroadenoma and other benign lesions. Our case was clinically thought to be a fibroadenoma with FNA giving a diagnosis of a fibrocystic lesion of breast. On excision, a diagnosis of papillary carcinoma was given with immunohistochemical confirmation. However the patient also had co existent fibroadenomas adding to the diagnostic dilemma.

CONCLUSION:

Papillary carcinoma is a rare malignancy of the breast which may be missed clinically and on aspiration cytology. The presence of coexistent apocrine adenosis may also lead to missed diagnosis and it has to be borne in mind that apocrine changes are not unusual in papillary carcinomas. In doubtful cases, immunohistochemistry may be necessary to arrive at a definitive diagnosis.

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