International Journal of Research in Medical Sciences
Sharma C et al. Int J Res Med Sci. 2015 Feb;3(2):506-508
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: 10.5455/2320-6012.ijrms20150225

Case Report

Papilloma with myoepithelial hyperplasia in breast: a rare cytology diagnosis

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Received: 25 December 2014
Accepted: 15 January 2015

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ABSTRACT

Papillary neoplasm of breast with myoepithelial hyperplasia is a rare entity. Interpretation of papillary lesions of the breast remains a challenging task because of the wide morphologic spectrum encountered in benign, atypical and malignant subtypes. We present an interesting and rare case of a 37 year old female reported to surgical out-patient department with complaints of lump in right breast for 2 years. Mammogram diagnosis was Intraductal malignancy with Birads score V. Fine needle aspiration cytology of the lesion did not reveal features of malignancy and a diagnosis of papillary neoplasm with myoepithelial hyperplasia was rendered. Excision biopsy of the lump showed multiple papillomatosis with marked myoepithelial hyperplasia. The diagnosis of this entity by Fine needle aspiration cytology is crucial as it is a rare diagnosis and it can mimic malignancy, radiologically and clinically. It is imperative to rule out malignancy in such cases as it changes the treatment plan dramatically.

Keywords: Papilloma, Myoepithelial hyperplasia, Breast, Papillary neoplasm, Fine needle aspiration cytology, Nipple discharge

INTRODUCTION

The cytologic accuracy in assessing malignancy in papillary breast neoplasms is controversial.[1] In absence of overt features of malignancy, distinguishing between benign and malignant papillary breast lesions is difficult, if not impossible.[2] True papillary lesions of breast have a significantly high error rate on Fine Needle Aspiration Cytology (FNAC), as many other nonpapillary breast lesions exhibit overlapping features on cytosmears.[3] In literature, studies have been done on papillary lesions of breast, but 'papilloma with myoepithelial hyperplasia' still stands as a rare entity on cytology.

CASE REPORT

A 37 year old female reported to surgical OPD with complaints of lump in right breast for 2 years and nipple discharge for 15 days. Mammogram was done and a diagnosis of intraductal malignancy with Birads score V was given. FNA of the breast lump was performed using 24-gauge needle and 5-mL syringe. Smears from the nipple discharge were also made. Half of the smears were air-dried for May-Grünwald-Giemsa (MGG) staining while the other half were alcohol-fixed for Papanicolaou staining. The smears were studied by the cytopathologist. Most of the smears were highly cellular and showed cohesive clusters, monolayered sheets and papillae of ductal epithelial cells (Figure 1a). The cells had round to oval regular nuclei and moderate amount of cytoplasm (Figure 1b). Some of these cells showed mild atypia. Occasional clusters showed nuclear overlap and intranuclear inclusions. Many spindle cells with elongated nuclei and bland chromatin were seen (Figure 1c). Bare nuclei were observed in the background which did not exhibit atypia (Figure 1d). A diagnosis of papillary neoplasm with myoepithelial hyperplasia was given on cytology. The cytological features were not

suggestive of malignancy. However, in view of strong suspicion of malignancy clinically and radiologically, excision of the lump was suggested to rule out the same.

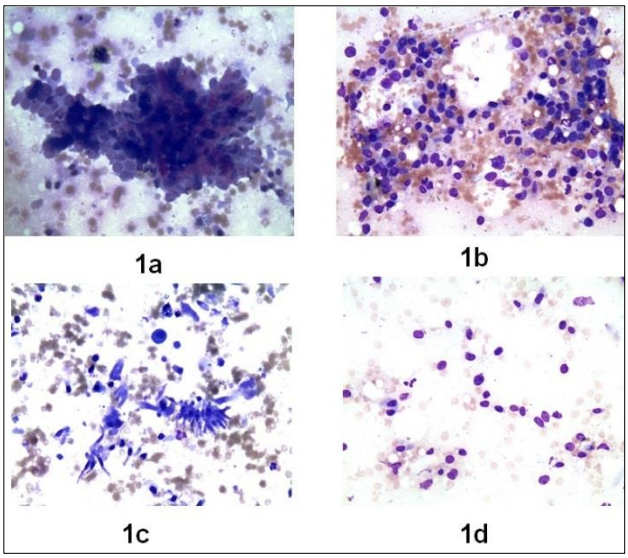

Figure 1: (a) Ductal epithelial cells in papillary pattern (Giemsa 10x). (b) Cells with round to oval nuclei (Giemsa 40x). (c) Spindle cells seen (Giemsa 40x). (d) Bare nuclei in the background (Giemsa 40x).

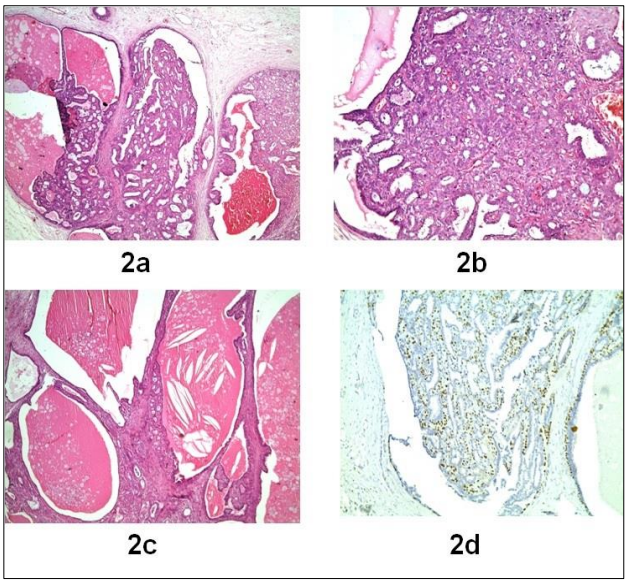

Figure 2: (a) Branching papillary folds (H & E 4x). (b) Fusion of papillary fronds due to myoepithelial cell hyperplasia (H & E 10x). (c) Cholesterol clefts and cystic macrophages (H & E 10x). (d) p63 staining positive for myoepithelial cells (10x).

Gross morphology of the excised lump revealed a globular mass with homogenous cut surface and multiple tiny cysts. Microscopy showed breast tissue with a neoplasm composed of markedly dilated glands with branching papillary fronds, covered with bilayered ductal epithelium (Figure 2a). There was marked hyperplasia of myoepithelial cells resulting in fusion of the papillary fronds and formation of solid areas (Figure 2b). Extensive apocrine metaplasia, focal squamous metaplasia, areas of infarction, foamy macrophages and cholesterol clefts were observed (Figure 2c). A diagnosis of multiple papillomatosis with marked myoepithelial hyperplasia was given, which was in concordance with the cytology diagnosis. Further confirmation of myoepithelial cells was done by using immunostain p63 which was positive (Figure 2d).

DISCUSSION

Papillary lesions of breast encompass a wide spectrum of benign and malignant entities constituting <2% of all breast carcinomas. These lesions have a variable clinical and radiological presentation, causing diagnostic difficulties. Papillary lesions present clinically as a palpable mass or nipple discharge and, at times, these features are not evident. Mammogram may show multiple bilateral lesions of varying sizes with or without microcalcifications. Ultrasound of these lesions may show a complex intracystic lesion or a homogenous solid lesion.[3] However, even if the lesion is identifiable on radiologic imaging, such detection is neither sensitive nor enough to accurately differentiate malignant and benign papillary tumours.

In past, papillomas were regarded as malignancies or as precancerous lesions and were treated by simple or radical mastectomy. Studies demonstrating the benign nature of papillomas led to the acceptance of local excision as the treatment of choice. Subsequently however an increased risk for breast cancer was reported in patients with papillomas and higher incidence rate was noted in association with multiple papillomas. Ueng et al. have recommended excising the lesion completely with a small rim of uninvolved breast tissue.[4]

In the present case malignancy was suspected, clinically and radiologically. Presence of nipple discharge in addition to the breast lump lead to the suspicion of malignancy. Mammogram findings with Birads score V added to the suspicion, strongly.

Cytology showed ductal epithelial cells in papillae and many spindle cells, indicating the presence of myoepithelial hyperplasia. Though mild atypia of the ductal epithelial cells was present, there was no obvious evidence of malignancy. A diagnosis of papillary neoplasm with myoepithelial hyperplasia was given. Excision of the lump was appropriately suggested to confirm the absence of malignancy, owing to the strong clinical and radiological suspicion.

Microscopy of the excised lump showed markedly dilated glands with branching papillary fronds, covered with bilayered ductal epithelium. The presence of bilayered ductal epithelium ruled out the possibility of malignancy. The diagnosis of multiple papillomatosis with marked

myoepithelial hyperplasia was in concordance with the cytology diagnosis. Marked hyperplasia of myoepithelial cells resulting in fusion of the papillary fronds and formation of solid areas was the highlight of this case.

Immunostain p63, which is a known sensitive and specific myoepithelial marker, was done and its positivity confirmed the presence of myoepithelial cells in this case.[5] Existence of papillomatosis with marked myoepithelial hyperplasia made the present case very unique.

CONCLUSION

Histopathology diagnosis correlated with and hence confirmed the cytology diagnosis of multiple papillomatosis with marked myoepithelial hyperplasia. Clinically and radiologically the breast lump resembled malignancy, but there was no evidence of malignancy on cytological and histopathological examination. Papilloma with myoepithelial hyperplasia is a rare diagnosis. The role of Fine needle aspiration cytology is extremely important to rule out malignancy in such cases as it changes the treatment plan dramatically.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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DOI: 10.5455/2320-6012.ijrms20150225
Cite this article as: Sharma C, Shanthakumari S. Papilloma with myoepithelial hyperplasia in breast: a rare cytology diagnosis. Int J Res Med Sci 2015;3:506-8.