

Tubular Adenoma of the Breast: A Case Report

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ABSTRACT

Tubular adenoma of the breast is one of the rare benign tumours, comprising around 0.13% to 1.7% of all benign breast tumours. Microscopically these tumours showing typical pattern of proliferating round and uniform tubules lined by regular epithelial cells surrounded by myoepithelial cells, packed in a small amount of stroma. The radiologic features are often dilemmatic and only the histopathologic analysis can achieve the definitive diagnosis of this tumour by excluding all possible differential diagnoses. Present article highlights the histopathologic and some useful immunohistochemical features of tubular adenoma of breast.

Keywords: Breast, Tubular adenoma, Myoepithelial cells, Histopathology.

INTRODUCTION

Tubular adenoma of the breast is considered as one of the rare benign tumours, comprising around 0.13% to 1.7% of all breast benign tumours^[1]. Typically, this lesion of breast occurs in young women, very rarely before menarche or after menopause^[1,2]. The preoperative diagnosis of tubular adenoma is difficult, only the histopathological examination can achieve a definitive diagnosis^[3].

Only little is known about this tumour, as the current medical literature offers only few case reports and other rare small series. Histopathologically tubular adenoma is a proliferation of tubular structures lined by benign epithelial and myoepithelial cells within a small amount of fibrous stroma^[1].

CASE REPORT

A 17-year-old lady came to surgery outpatient department with a history of lump

in her right breast, present for around six months of duration, which was of insidious onset and gradually progressive in its size. On clinical examination, a non-tender, nodular lump was palpated in upper inner quadrant of right breast, which was firm in consistency and freely mobile. There were no skin alterations, nipple discharge or palpable axillary lymph nodes. Ultrasound examination of the breast showed a circumscribed hypoechoic lesion in the left breast with BIRAD score III. Based on clinico-radiological findings diagnosis of fibroadenoma was made and lumpectomy was done, the specimen was sent for histopathological evaluation.

Grossly the specimen was weighing around 8gms, measuring 3.5x3x3cm in size, well-circumscribed with nodular external surface, resembling a fibroadenoma. Cut section was lobulated with focal greyish tan areas. Histopathological examination of the mass revealed a well circumscribed lesion

composed of closely approximated round to oval glandular structures with single layer of epithelium and supported by a layer of myoepithelial cells (Figures 1 & 2). Few of the tubules are filled with eosinophilic secretion. No evidence of necrosis, atypia or malignant changes were seen.

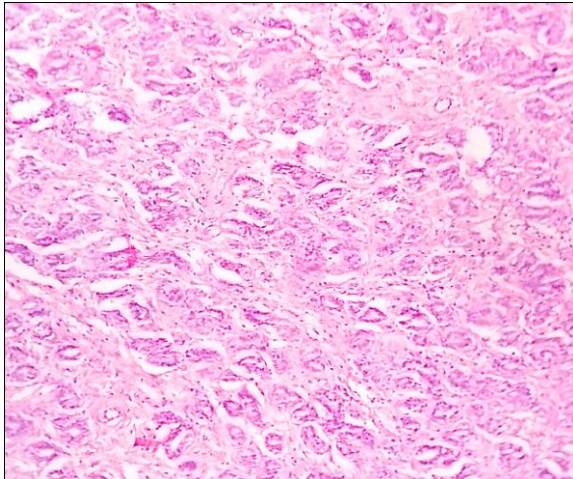


Figure 1. Lesional tissue completely packed with glandular structures. Haematoxylin & Eosin, x100.

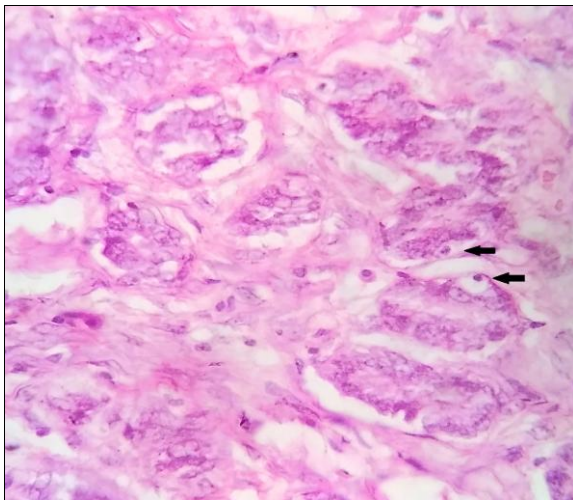


Figure 2. High power image showing the intact myoepithelial lining (arrows). Haematoxylin & Eosin, x400.

DISCUSSION

Tubular adenomas of breast most often affect young women of reproductive age group [4,5,6]. The first case of tubular adenoma of the breast studied by aspiration cytology, light and electron microscopy was reported in 1983 by Moross et al [7]. In around 90% of the cases these tumours are found in patients younger than 40 years of age [6,8], whereas it is rarely seen in elderly women [6,9,10].

Preoperative diagnosis of tubular adenoma is difficult because in most cases the radiological features are nonspecific and are similar to those of fibroadenoma. In rare cases the radiologic findings may be suggestive of a malignant lesion [9,11].

Upper and outer quadrant of breast is the most common site for this lesion and no association with pregnancy or oral contraceptive use has been reported which is in contrast with lactating adenoma [12].

Macroscopically, the lesions are firm, circumscribed, yellowish, homogeneous masses. The tumor size varies from 1.0 cm to more than 7.5 cm but is rarely greater than 5 cm [8].

In a study by Sengupta et al, most of the tubular adenomas are circumscribed mimicking fibroadenoma in almost all the cases, which is also true in our case. Grossly these tumours are unencapsulated, slow growing, firm, mobile and small to medium sized breast lesions [12]. Histologically, the tumour is characterized by the presence of tightly packed homogenous tubular and acinar epithelial components with sparse intervening stroma, tubules lined by regular epithelial cells and myoepithelial cells with round nuclei, without atypia [6,12]. SMA, p63 protein, cytokeratin 14 (CK14), CK5/6, calponin, etc are markers of these myoepithelial cells expressed in tubular adenoma [1].

The lumen of the tubules is usually empty but may contain proteinaceous material or mucin, which is appreciated focally in the current case report. Lymphocytes or mucinous changes can be found in the stroma [2,12].

The morphological and immunohistochemical features of tubular adenomas closely resemble, in some areas of the tumours with those of fibroadenoma. Therefore, they may represent histogenetically related neoplasms with exuberant ductular component in tubular adenomas and predominant stromal component in fibroadenoma. [13]

Some of the histologic differential diagnoses, are fibroadenoma, lactating

adenoma, phyllodes tumour, tubular carcinoma. Some cases might require the usage of immunohistochemistry for differentiating them from tubular adenoma [1, 4]. Fibroadenoma can be mistaken for tubular adenoma but histologically tubular adenomas are distinguished by their homogeneously tightly packed tubular or acinar epithelial component and sparse connective tissue. Fibroadenomas, on the other hand, have abundant stroma and an epithelial component consisting of large ducts [14]. Lactating adenoma is usually with secretory changes in tubular lumen and occur during pregnancy or lactation. Atypical hyperplasia or ductal carcinoma in situ sometimes has morphologic features that can be difficult to distinguish from the tubular adenoma but they are negative for CK5/6. In tubular carcinoma, tubules have an open lumina with a haphazard distribution. The immunohistochemistry (IHC) allows to rule out the diagnosis of the tubular carcinoma if myoepithelial cells markers are positive. Microglandular adenosis is another differential diagnosis of tubular adenoma and shows a proliferation of small rounded tubules lined by a single layer of epithelial cells and here also IHC may be useful as it confirms the absence of myoepithelial cells and thus helps in differentiating it from tubular adenoma [1]. Surgical excision is necessary in most cases to obtain the correct diagnosis and is the treatment of choice for this type of benign breast lesions [15]

CONCLUSION

Tubular adenoma of breast is one of the rare benign tumours. Preoperative diagnosis is difficult because in most cases the clinical findings and imaging features resemble fibroadenomas. Histopathologic analysis can achieve the definitive diagnosis of this tumour by excluding all possible differential diagnoses.

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- How to cite this article: Nagireddi SP, Ravikkumar R, Vaidya KA et.al. Tubular adenoma of the breast: a case report. Int J Health Sci Res. 2020; 10(12):113-116.
