

Case Report:

Tubular adenoma of breast: Case series

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Abstract:

Tubular adenoma is a rare epithelial tumor of the breast. Only a few cases 0.13-1.71% have been reported in young women of reproductive age. Pre operative diagnosis is difficult because physical examination and imaging resembles fibroadenoma a much more commoner lesion. Surgical excision is necessary for diagnosis. Histopathology is definitive and stands out uniquely as its behavior is benign in spite of proliferation of the epithelial component. predominantly. These rare lesions with review of literature are reported. Though rare it should be kept in mind while reporting of breast lesions as surgical excision is curative. Tubular adenoma as a separate entity in our settings is reported.

Key words: Tubular adenoma, breast, fibroadenoma.

Introduction:

Tubular adenoma is a benign tumor of breast, misdiagnosed clinically as fibroadenoma. It is a rare benign tumor accounting for 0.13%-1.7% of benign breast lesions.⁽¹⁾ It was first described as a distinctive entity in 1968 by Persaud et al. and first defined by Hertel et al. in 1976. A few cases have been reported in the literature especially in young women of reproductive age. Grossly, they appear as solid circumscribed masses. Microscopically they are composed of tubular structures. They differ from fibroadenomas in containing only scanty connective tissue and the epithelial component consisting of acinar units rather than large ducts. We describe 6 cases of rare, benign tumor which is not a fibroadenoma.

Case report - I

An 18 years old female came with painless lump in right breast which was small in size and increased to the present size of 3x2 cms. The lump was mobile, firm in consistency with regular margins, not attached to skin, no nipple discharge and no lymphadenopathy. USG showed the mass as hypoechoic with no calcifications. The menstrual history was normal. FNAC was done using 22G needle and 10cc syringe. Smears were fixed in 95% alcohol and stained with haematoxylin and eosin stain, Papanicolaou and May Grunwald Giemsa stain. FNAC smears were cellular and showed flat sheets of epithelial cells. Myoepithelial cells were seen as bare nuclei. The typical 3-dimensional, antler pattern was not observed. A diagnosis of benign breast lesion was made. The mass was excised and sent for histopathology.

Grossly, the mass was circumscribed; tan white in colour 3x2cms. The cut surface was tan yellow. Multiple sections were studied and showed closely packed tubules lined by single layer of epithelial and myoepithelial cells in a delicate stroma. *Some of the tubular lumina contained eosinophilic secretions.* Focal lymphocytic infiltrate with stromal fibrosis was noted. There were no fibroadenoma like areas. The histological features confirmed the diagnosis of tubular adenoma.

Case report – II

A 17 year old female with lump in left breast upper outer quadrant which was small in size and is now 5x2x1 cms. The lump was mobile with firm consistency and regular margins fine needle aspiration carcinoma from the mass revealed monolayered sheets of ductal epithelial cell with minimum stroma and focal lymphocytic infiltrate. Microcalcification were present on Ultrasonography.

The Mass was excised and sent for histopathology examination. Grossly the specimen was well circumscribed 5x2 cms with white cut surface. Microscopy showed tubules lined by single layer of epithelial cells closely packed together, myoepithelial cells were visible. *Focal lymphocytic infiltrate was present with intraluminal eosinophilic secretion.*

Case report – III

A 16 years old girl with lump in left breast showed a small peanut size swelling increasing to 4x2 cms. The lump was mobile with firm consistency and regular margins. Fine needle aspiration from the mass revealed sheets of ductal epithelial cells and *eosinophilic secretions in between.* The swelling was excised and submitted for histopathology. Grossly well circumscribed tumor with white cut surface.

Microscopy showed tubules lined by single layer of ductal epithelial cells with no features of anaplasia cells along with lymphocytic infiltration.

Case report – IV

A 16 years old female came with lump in right breast of size 3x2 cms. The swelling was small to start with and has increased now to present size the lump is freely mobile with smooth margin. On FNAC only a few ductal epithelial cells were aspirated with benign features. On excision the tumor was smooth well defined with white cut surface. Microscopy revealed ductal epithelial cells and stroma. These were no fibroadenoma like areas. *Stroma showed areas of infarction degeneration and intraluminal eosinophilic secretions.*

Case report – V

An 18 years old give with lump in left breast of size 4x2 cm came to OPD. On examination the lump was well defined and mobile. On FNAC few ductal epithelial cells with stromal cells were observed on excision the lump on cut surface showed pale areas interspersed with firm white areas. Microscopy revealed ducts lined by single layer of epithelium surrounded by myoepithelial cells. There were fibroadenoma like areas with microcalcification. *No areas of infarction, degeneration were noted.*

Case report – VI

A 16 years old girl presented with a lump of size 5x2 cms in right breast. On examination the lump was lobulated with smooth margins. FNAC showed ductal epithelial cells only on excision firm with mass was obtained. Microscopy showed ducts lined by epithelial cells with fibroadenoma like areas in between. *Infarction and degeneration present along with intraluminal eosinophilic secretion.*

Table 1) Characteristic Features of tubular adenoma breast cases

Feature	Case – I	Case – II	Case – III	Case – IV	Case – V	Case – VI
Age	18 Years	17 Years	16 Years	16 Years	18 Years	16 Years
Size	3x2 cm	5x2 cm	4x2 cm	3x2 cm	4x2 cm	5x2 cm
Mass Characteristic	Mobile	Smooth Margin	Mobile	Mobile	Mobile	Mobile
Radiographic Imaging						
Fibroadenoma Like areas	Not Present	Present	Present	Not Present	Present	Present
Micro Calcification	Not Present	Present	Not Present	Not Present	Present	Not Present
Morphology						
Intracytoplasmic Vacuolations	Absent	Absent	Absent	Absent	Absent	Absent
Cytology Smears	Monolayered sheets	Monolayered sheets with fibroblastic stroma	Monolayer sheets	Monolayer sheets	Monolayer sheets	Monolayer sheets
Presence of Infarction	Not Present	Not Present	Not Present	Present	Not Present	Not Present
Presence of Degeneration	Not Present	Present	Not Present	Present	Not Present	Not Present
Intraluminal Eosinophilic Secretion	Absent	Present	Present	Present	Not Present	Present
Risk of breast Carcinoma	Nil	Nil	Nil	Nil	Nil	Nil

- Age Group – 16 – 18 Years
- Size Variable
- Mobile mass
- Fibroadenoma like areas 60 % (indicate benign nature of lesion)
- Microcalcification 30 %
- Intracytoplasmic vacuolations - Not a feature
- Infarction 10 %
- Degeneration 30 %
- Intraluminal eosinophilic secretion 60 %

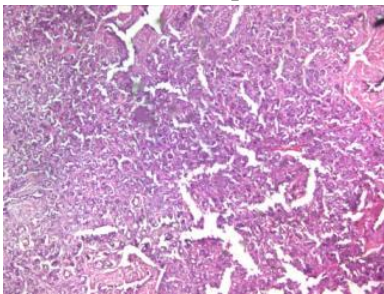


Fig 1) B-2332-16 4X showing tubular adenoma

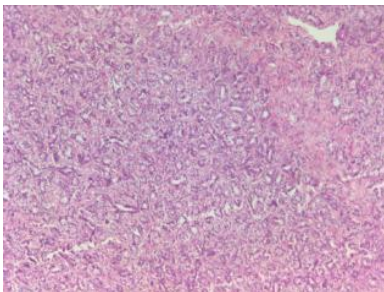


Fig 2) B-2338-16 10X showing tubular adenoma

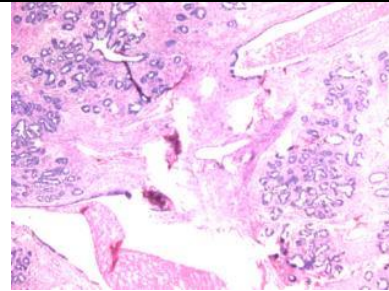


Fig 3) Biopsy 40X showing tubular adenoma

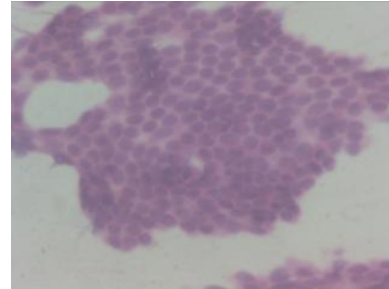


Fig 4) FNAC 40X showing benign ductal epithelial cells

Discussion:

Breast adenomas are common, but tubular adenomas are uncommon benign breast lesions occurring in young females and presenting as freely mobile mass. According to the classification by Herteletal. breast adenomas are subdivided in to true adenomas, nipple adenomas and fibroadenomas. ⁽²⁾They are considered variants of pericanalicular fibroadenomas with an exceptionally prominent or florid adenosis like epithelial proliferation.⁽³⁾They are rarely seen in elderly women.

Tubular adenomas present usually as freely mobile, well defined, painless breast masses without associated skin or nipple alterations and clinically resemble fibroadenomas.

The size varies from 1 to over 7.5cms. Tavassoli et al⁽¹⁾ have stated that a nodule to qualify as a tubular adenoma should be at least 1cm in size or encapsulated if smaller. Grossly they are well circumscribed with solid homogenous to finely nodular tan yellow cut surface. They are firm in consistency.

Cytomorphological features are described by few authors. The epithelial cells are arranged in flat sheet, small clusters, three dimensional clusters, cell balls, glandular and tubular structures. The antler pattern was not observed in the smears similar to observations of other authors. The absence of stroma further differentiates it from fibroadenoma.

Multiple sections were studied and showed closely packed tubules. There were no fibroadenoma like areas. The intervening stroma is sparse, on the contrary to fibroadenoma which contains a large amount of stroma. The tubular lumens are small and empty but sometimes may contain eosinophilic material. Focal area of infarction may be seen. But haemorrhage and necrosis is not seen frequently. Exuberant ductular component is characteristic of tubular adenoma.

Intracytoplasmic granules in Giemsa stained smears as described by other authors were not seen in present case. At cytology, almost all tubular adenomas are labelled as fibroadenomas which is a commoner lesion. The diagnosis of tubular adenomas is based on histopathology only.

A small amount of secretion is frequently present in the glandular lumen, even in tumors from presents who are taking oral contraceptives or are not pregnant. This secretion is not immunoreactive for α lactalbumin⁵.

The differential diagnosis of tubular adenomas includes fibroadenoma, sclerosing adenosis, eccrine spiradenoma, lobular hyperplasia and tubular carcinoma.⁶

The absence of large stromal fragments rule out fibroadenoma and sclerosing adenosis. The aspirates from fibrocystic disease will show apocrine cells and cyst macrophages. Many tubules are seen but the lack of angulated tubular arrangement and the absence of myoepithelial cells favor a diagnosis of tubular carcinomas. Eccrine spiradenoma shows sharply demarcated lobule with two types of epithelial cells one at the periphery and the other arranged around lumens. Lobular hyperplasia shows proliferating lobules with plenty of eosinophilic cytoplasm. Awareness of tubular adenoma and its characteristics are needed to prevent unnecessary progressive treatment.⁷

Tubular adenomas are mostly seen in young females of reproductive age group.⁶ Early and pre operative diagnosis is difficult because of resemblance to other benign breast lesions. Surgical biopsy and histopathology is conclusive and helpful.⁷ A close follow up is mandatory. This tumor has been reported in post menopausal age also⁸.

Pre operative diagnosis is very difficult because imaging is of little help⁹. Calcifications are seen only in long standing and large tumors.¹⁰ Though the epithelial component forms the bulk of the tumor its benign behavior and lack of recurrence is beneficial increasing the disease free survival interval.

Uriev et al have described tubular adenoma like epithelial component in malignant phyllodes tumor.¹⁰

Hertel, Zaloudek and Kempson² have reported a strong association with pregnancy which was also observed by Tavassoli.¹ Forty percent of cases occur during pregnancy. We have found no such association with pregnancy.⁵ We report these rare cases as their relation with hormonal levels are not known, do not regress

automatically and remain as mystery unless studied after surgical removal.

Conclusion:

From present case report we conclude that tubular adenoma is a rare entity but can be recognized by its special features .

References:

1. Tavassoli FA, Devilee P, Pathology and genetics of tumors of the breast and female genital organs, World Health Organization Classification of tumors. Lyon, France: IARC, 2003 ; 9-112.
2. Hertel, Z , Kempson RL., Breast adenomas, Cancer,1976;37(6):2891-2905.
3. Irshad A. Ackerman SJ, Pope TL, Moses CK, Rumboldt T. Panzegrou B. , Rare breast lesions: Corelation of imaging and histologic features with WHO Classification. Radiographics, 2008;28(5):1399-1414.
4. Shet TM, Rege JD , Indian J Pathology Microbiology 2006;49:2, 268-271
5. Rosen, P P. Fibroepithelial neoplasms, Rosen's Breast Pathology, 3rd ed. Lippincott Williams & Wilkins, 2009:187-229.
6. Domoto H, Tsuda H, Miyakowa K, Shinoda A, Nanasawa T, Invasive ductal carcinoma associated with tubular adenoma of the breast., Patho. Int,2002;52(3):244-248.
7. Calderaro J, Boyou EH, Castaigne D, Mathieu MC,et al. , Tubular adenoma of the breast with associated mucinous features: a cytological diagnostic trap, Cytopathology, 2010;21(3):191-193.
8. Nikolaos S, Salemis et al. , Tubular Adenoma of the Breast: A Rare Presentation And Review of the Literature, J Clin Med Res 2011;4(1):64-67.
9. Mary Scott Soo et al. , Tubular Adenomas of the Breast: Imaging Findings with Histologic Correlation,AJR 174, March 2000:757-761.
10. Savithri R, Saguna BV, Cytomorphology of tubular adenoma breast-a case report , Indian J .Pathol Microbiol , 2006,vol.49,No.2:267-268.

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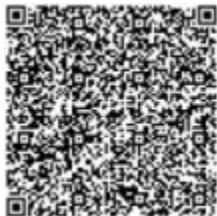
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