



Original Research Article

An institutional retrospective study done on fibroepithelial lesions of breast

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ABSTRACT

Aim: The primary objective is to study the incidence of various fibro epithelial lesions of breast (FEL) in different age groups. The secondary objective is to study the FEL based on histopathological features and corresponding occurrences of patterns in different age groups

Materials and Methods: It is a retrospective study conducted in the department of pathology, Saveetha medical college. A total of 102 fibro epithelial lesions were taken from the pathology register from the period of June 2018 to December 2018 along with the age and radiological features if present.

Result: Out of 102 cases, 92 were simple fibro adenomas; 3 were giant fibroadenomas, 2 were complex fibro adenomas, 1 juvenile and 4 were phyllodes tumour. The commonest group of fibro epithelial lesions of breast studied was fibro adenoma between the age group of 15 and 30. Most of the histopathological patterns showed cystic dilatation 30% which was followed by hyalinization 25% and epithelial hyperplasia. While the phyllodes tumors were recorded under the age group of 35 to 45.

Conclusion: Our findings highlight the important aspects of the interpretation and reporting of fibro epithelial lesions of breast.

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1. Introduction

Mammary fibro epithelial lesions consist of a wide spectrum of tumors ranging from simple fibro adenoma to most fatal malignant phyllodes tumor. Micro anatomy of breast reveals 2 types of tissue components: epithelial and stroma. In a fully developed non lactating female breast the epithelial component comprises less than 10% of the total volume but is more significant pathologically since majority of lesions pertain to this portion of the breast¹

Fibroadenoma is a benign biphasic tumor of fibrous and epithelial elements. It is the most common benign tumor of the female breast. Though it can occur at any age during reproductive life, most patients are between 15 and 30 years of age. Though the etiology of fibro adenoma is not known, hormonal relationship is likely since they persist during the reproductive years. They can increase in size during pregnancy or with estrogen therapy, and usually regress after

menopause

Phyllodes tumor is a very rare breast tumor and accounts for less than 1% cases.² (It develops from the cells in the stroma of the breast. It is also called cystosarcoma phyllodes. These tumors are usually benign, but they can cause malignancy leading to breast removal. Phyllodes tumor can be classified into benign borderline and malignant on the basis of histological features of stromal cells. Local recurrences are much more frequent than metastases.

Differentiation of fibro adenoma from phyllodes may be challenging for the pathologist as both of them have more similar features. Phyllodes tumor is distinguished from fibro adenoma histologically by presence of more cellular connective tissue.¹

2. Materials and Methods

A retrospective study view from medical records of patients diagnosed with fibro epithelial lesions at Saveetha medical college and hospital between 2017-2018 was

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performed. The demographic details such as age of the patients were collected from the histopathological records. The corresponding pathological findings and radiological features if present were recorded. Patients were categorized into productive age groups. Patients diagnosed with various fibro epithelial lesions were categorized based on age, laterality, radiological features and histopathological patterns.

3. Results

In this study 102 cases of fibro epithelial lesions were taken from the pathology register from the period of June 2018 to December 2018. The most common diagnosis was fibro adenoma under the age group of (21-30) followed by (41-50).

Out of 102 cases, radiological features were obtained for 75 cases. Majority of cases were seen under birads2 followed by birads 3 and so on as given in the Table 1. Most of the phyllodes tumor had circumscribed margins with calcifications seen frequently.

Most of the fibro epithelial lesions were seen between 21-30 out of 98 fibro adenoma cases most of them were reported under the age group of 15 to 30 whereas phyllodes tumors were reported between the age group of 35 to 45.

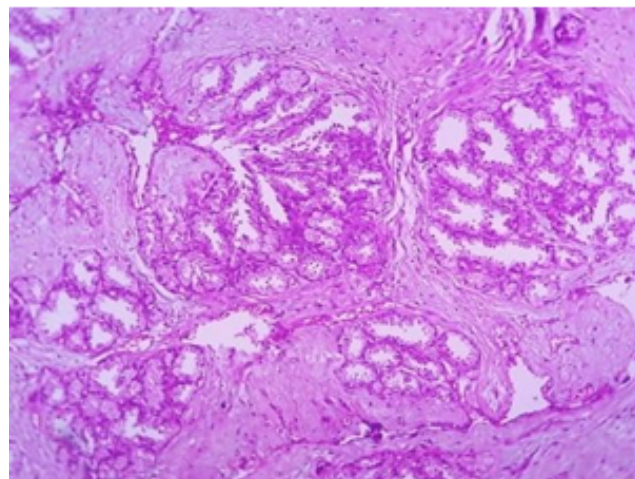


Fig. 2: Fibroadenoma showing apocrine changes

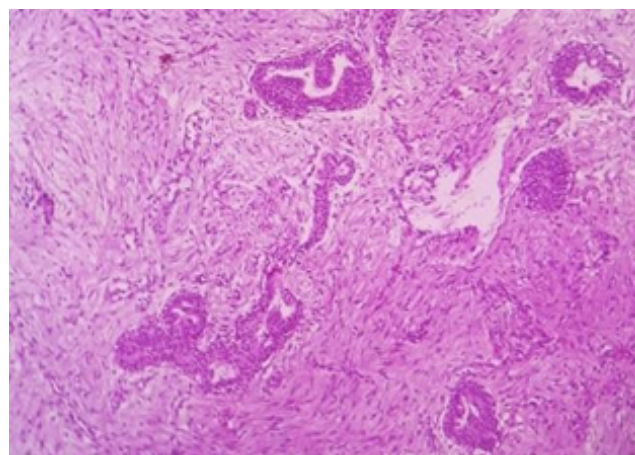


Fig. 3: Fibroadenoma showing epithelial hyperplasia

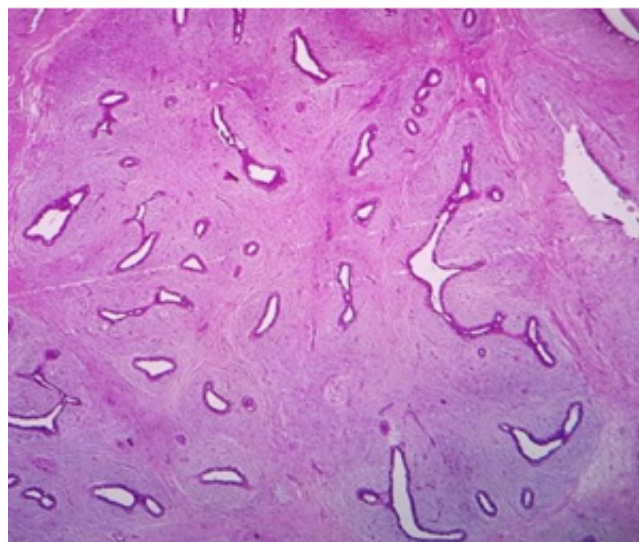


Fig. 1: Fibroadenoma showing intra canalicular pattern

4. Discussion

Most common fibro epithelial lesion seen in this study was fibro adenoma which constitute about 97% [n=97] of cases reported³⁻⁶ whereas incidence of phyllodes tumor is rare and only 4% (n=4) were seen. Based on various studies it is estimated that 10% of world's population suffers from fibro adenoma once in lifetime. So FEL of breast are broadly studied under various categories like age, laterality

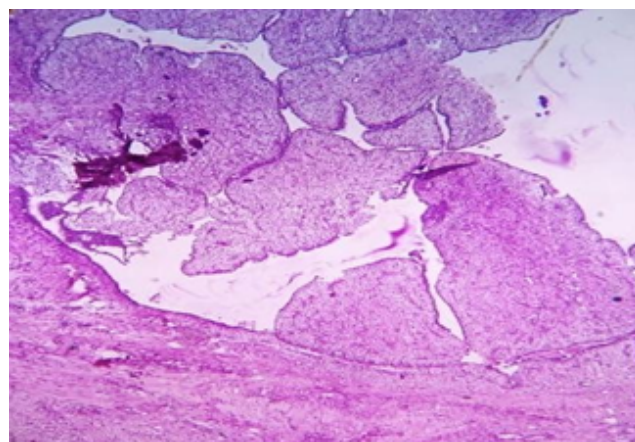


Fig. 4: Phyllodes Tumour

Table 1: Distribution of cases based on Radiological pattern

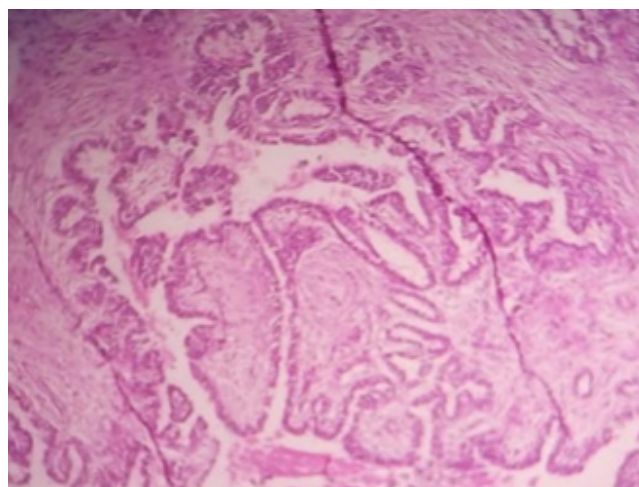
Imaging Pattern	Fibro adenoma
BIRADS 1	NIL
BIRADS 2	45
BIRADS 3	27
BIRADS 4	3

Table 2: Distribution of cases based on age and laterality

Age	No. of cases	Fibro adenoma	Phyllodes tumor	Laterality - Right	Laterality - Left
15 – 20	35	36	-	20	15
21-30	45	46	-	20	25
31-40	10	9	2	4	6
41-50	5	4	2	2	3
51-60	3	3	-	2	1

Table 3: Histological patterns in fibro adenoma

Histological patterns	Fibro adenoma
Intra and Pericanalicular change	98
Apocrine change	20
Periductal hyalinization	5
Parenchyma showing hyalinization	9
Fibrocystic change	20
Cystically dilated ducts	30
Epithelial hyperplasia	10

**Fig. 5:** Phyllodes tumour

and histopathological features for better understanding and diagnosis. There are about 4 types of fibro adenoma Simple fibro adenomas looks similar all over when viewed under microscope Complex fibro adenomas are bigger and tend to affect older women. The cells have the tendency to grow rapidly. It is often accompanied by epithelial calcifications, sclerosing adenosis and cysts larger than 3 mm. Juvenile fibro adenomas are the most common type of breast lump found in girls and adolescents between the age of 10 and 18. They can grow large, but usually shrink over time while

some disappear. Giant fibro adenomas can grow larger than 2 inches. They may need to be removed if they press on or replace other breast tissue. It is important to note that the histological features of the fibro adenoma influence the risk of breast cancer. The risk of subsequent breast cancer is slightly elevated only if the fibro adenoma is complex, if there is adjacent proliferative disease, or if there is a family history of breast cancer. For the majority of women with simple fibro adenomas, there is no increased risk of developing breast cancer.

In a study of 98 fibro adenoma cases the peak incidence was seen between age group of 15 and 30. Incidence was seen higher among women in reproductive age groups. These findings are consistent with similar studies from Naveen et al⁷ shukla et al^{8,9} Nigrom MD organ ch jr.^{10,11} The major reason for this incidence may be increased sensitivity of breast tissue to female reproductive hormone estrogen which apparently reduces with age hence incidence of fibro adenoma reduces with increased age group, However it can occur at any age in females.

Regarding the laterality of the disease, 53% were reported on the left side and 49% was seen on the right side.

Regarding the biopsy out of 102 patients 77% (n=75) underwent excision and 25% underwent trucut biopsy. Of 75 patients' excised majority of cases seen was fibro adenoma which constitutes about 73% of total cases reported. Most common presentation was breast lump or palpable mass in which trucut biopsy was done to provide

tissue for the diagnosis of malignancy before definitive treatment and remove the need for formal excision biopsy of lesions for which there is low index of suspicion. This was eventually done in about 24 patients who constitute about 25% of the total number of cases reported. Similar findings were reported in a study done by marcilg Wongs parsyan.⁹

Out of 4 phyllodes tumor all of them come under benign category of phyllodes tumor. No malignant phyllodes tumor was identified. According to reports, 85 to 90 % of phyllodes tumor are benign whereas only 10 to 15 % are malignant.⁹ Both the cases were seen under the age group of 35 to 45. Excision was done in both the cases. However chances of local recurrence after excision are always present especially in lesions that show malignant histology. It is similar to evidences reported in study by peznar RD.^{12,13}

The most common histological pattern found in fibro adenoma was cystic dilatation (40%) followed by apocrine change (10%) and ductal hyperplasia (15%) as given in Table 3.

Whereas in case of phyllode tumor increased hyper cellular stroma which not only occurs in PT but also in fibro adenoma so it cannot be used as a differentiating factor.¹⁴

Out of 102 cases only 75 cases were subjected to ultrasound. On a preoperative ultrasound, hyper echoic lesions with nodular opacities were commonly seen in upper inner segment of breast which constitutes about 50% of the cases with a birads score of 3 in 70% cases.

BIRADS is Breast Imaging Reporting and Data. It is divided into various categories based on the findings.

1. BI-RADS 0 : incomplete
2. BI-RADS 1 : negative
3. BI-RADS 2 : benign
4. BI-RADS 3 : probably benign
5. BI-RADS 4 : suspicious for malignancy
6. BI-RADS 5 : highly suggestive of malignant
7. BI-RADS 6 : known biopsy-proven malignancy¹

A high score of birads >4 with heterogeneous echo texture is associated with upgrading of fibro adenoma to phyllodes tumor¹²

Only 3 cases were reported under BIRADS 4 category which after FNAC was concluded as complex fibro adenoma .

5. Conclusion

Most of the fibro epithelial lesions of breast were under the age group of 21-30 of which fibro adenoma was the most seen diagnosis. Phyllodes tumor is rare. Awareness of the morphologic features of FELs in adolescents is of immense importance to avoid over diagnosis and misdiagnosis of Phyllodes, which can lead to additional unnecessary and potentially disfiguring surgery.¹⁵

6. Source of Funding

None.

7. Conflict of Interest

None.

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