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Original Research Article

Clinical profile of patients with fibroadenoma of breast

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ABSTRACT

Background: Fibroadenomas of breast are the commonest benign breast conditions. It is an attempt to study this common condition.
Methods: Fifty cases with histologically diagnosed cases of fibroadenoma were included in the study and were compared with previous data from literature.
Results: All the fifty patients included in this study were indoor patients. Maximum number of patient were in third decade (64%). Urban females have higher incidence of fibroadenoma (72%). Most fibroadenoma are unilateral (86%). Fibroadenoma are commonly present in upper lateral quadrant of breast (34%). Large sized fibroadenoma are common (58%). Pericanalicular pattern is most common histopathological finding (84%). Surgical excision is the commonest mode of treatment (36%).
Conclusions: Fibroadenoma are common in third decade, urban female population. Fibroadenoma are usually unilateral, pericanalicular histological variant.

Keywords: Fibroadenoma, Pericanalicular pattern, Surgical excision, Urban population, Upper lateral quadrant

INTRODUCTION

Breast is a modified Sweat Gland derived from ectoderm, and a branching epithelial cord emerging from this ectoderm forms this lactiferous duct. True Secretary alveoli develop during pregnancy and lactation. Topographically breast extends from second to sixth rib vertically. Horizontally it extends from side of Sternum to mid axillary line.[1]

Microanatomy of breast reveals two type of tissue Component. They are epithelial and Stromal Components. In fully developed non-lactating female breast, the epithelial component comprises less than 10% of total volume. But this epithelial component is more significant pathologically since majority of lesion arises from this portion of breast tumors of the female breast are more common and clinically significant. These conditions are rare in Men.[2] Benign breast disorders are classified as congenital disorders, Injury Related inflammatory and infective condition, aberration of normal differentiation and involution, duct ecstasies, and congenital breast conditions such as inverted nipple, Tietze's disease which is also known as costochondritis, sebaceous cyst and others skin condition. Aberration of normal differentiation and involution of breast consist of cystic nodularity and mastalgia, cysts and fibroadenoma.[3]

Aims and objectives of this study were to study the incidence of fibroadenoma of breast demographically and histologically and to study the clinical profile and management of patients with fibroadenoma of breast.

METHODS

It is a descriptive observational study conducted in tertiary care center of north Karnataka from January 2014 to December 2017. In this study histologically diagnosed

cases of fibroadenoma were included. Totally fifty patients were included in this study and all were inpatient. The detailed history and clinical examination with required relevant investigation were carried out in every patient.

Inclusion criteria

- Female patients presenting with breast lump.
- Age more than 12 years
- Patients admitted between 1st January 2014 to 31 December 2017
- Admitted Patients.
- Histologically confirmed fibroadenoma of breast patients.

Exclusion criteria

- Male Patients.
- Age less than 12 years.
- Patients admitted before 1st January 2014 and after 31st December 2017.
- Non-admitted Patients.
- Histologically confirmed Non fibroadenoma patients

All the Patients included in this study were subjected to fine needles aspiration cytology for confirmation and differentiation of diagnosis.

RESULTS

Table 1: Age distribution.

Age group (year)	No. of patients	Percentage
12-20	8	16%
21-30	32	64%
31-40	6	12%
41-50	4	8%
>50	0	0

In this study, age ranges from 12 to 50 years. Maximum number of patients (64%) belonged to third decade. Minimum cases were present (8%) in fifth decade. There were 16% patients in second decade. Twelve percentage patients were present in fourth decade. There were no patients in the age group of above fifty years. Most of the females were young adults of third and second decade respectively.

Table 2: Residential locality of patients.

	No. of patients	Percentage
Urban population	36	72%
Rural population	14	28%

In this study, patients are divided into two groups based on their residential area. The individuals residing in village and panchayat were grouped as rural population. The individuals who were residing in district and taluka places were grouped as urban population. Maximum patients (72%) belonged to urban population. Minimum cases were (28%) from rural area. Hence individuals residing at urban area are at risk of developing fibroadenoma.

Table 3: Location of fibroadenoma.

	No. of Patients	Percentage
Unilateral	43	86%
Bilateral	7	14%

In this study patients were classified into two groups based on their location. Individuals having fibroadenoma in single breast were grouped as unilateral. Patients having fibroadenoma in both breast were grouped as bilateral. Forty-three patients had unilateral fibroadenoma while bilateral fibroadenoma were seen in 7 patients. Hence maximum patients (86%) had unilateral fibroadenoma and minimum cases (14%) had bilateral fibroadenomas.

Table 4: Quadrant wise distribution of fibroadenoma.

Quadrant	No. of patients	Percentage
Central	6	12%
Upper lateral	17	34%
Upper medial	10	20%
Lower lateral	13	26%
Lower medial	4	8%

Anatomically breast is divided into five quadrants. They are upper medial, upper lateral, lower medial, and lower lateral and central alveolar area. Maximum cases (34%) had upper lateral quadrant fibroadenoma. Minimum cases (8%) had lower medial quadrant fibroadenoma (26%), patients had fibroadenoma in lower lateral quadrant (20%), patients had fibroadenoma in upper medial quadrant (12%), patients had centrally located fibroadenoma.

Table 5: Size of fibroadenoma.

Size	No. of patients	Percentage
Small (<1cm)	14	28%
Large (1-3cm)	29	58%
Giant (>3cm)	7	14%

Bases on size of fibroadenoma, they were categorized into three groups. When fibroadenoma were less than 1 cm in size were grouped as small fibroadenomas. When the size ranged 1cm to 3cm, it was grouped as large fibroadenoma. Giant fibroadenomas were those having size more than 3cm. Maximum patients (58%) had large fibroadenomas. Minimum cases (14%) had giant fibroadenomas. A 28% patient had small fibroadenomas.

Fine needle aspiration cytology was diagnostic and confirmatory investigation in present study. Two

histological patterns of fibroadenoma were considered. Maximum patients (84%) had pericanalicular pattern on fine needle aspiration cytology patterns of fibroadenoma. Minimum cases (16%) had intracanalicular pattern of fine needle aspiration cytology patterns of fibroadenoma. Hence pericanalicular pattern is commonest histological variant.

Table 6: Fine needle aspiration cytology patterns of fibroadenoma.

FNAC	No. of patients	Percentage
Intracanalicular	8	16%
Pericanalicular	42	84%

Table 7: Clinical feature.

Clinical features	No. of patients	Percentage
Mobile breast lump	50	100%
Painless lump	49	98%
Well localized	50	100%
Axillary lymphadenopathy	0	0%
Skin changes	0	0%
Discharge	0	0%
Firm lump	42	84%
Hard lump	8	16%

In this study mobile breast lump was present in all 50 patients. Fibroadenomas were well localized in all 50 patients. It was painless in 98% of cases. On palpation they were firm in 84% and hard in 16% patients. Axillary lymphadenopathy, skin changes and discharge were not present in the patients. Hence maximum patient had mobile (100%), well localized (100%), painless (98%) and firm (84%) fibroadenomas. Minimum cases had pain in lump (2%) and hard (16%) fibroadenomas.

Table 8: Management.

	No. of patients	Percentage
Conservative	14	28%
Surgical excision	36	72%

Fibroadenoma were treated with two modes of treatment. It was conservative management and surgical management. Small fibroadenomas, regressive fibroadenomas and those associated with pregnancy were managed conservatively. Spontaneous regression was seen in 14 cases. Hence maximum patients (72%) were treated with surgical excision. Minimum patients (28%) were treated conservatively.

DISCUSSION

Age distribution

Maximum number of patients were present in the age group of third decade. It accounted for 64% (n=32) cases. This was followed by next highest incidence in second decade with 16% (n=8) of Cases. There were 12% (n=6) of cases in fourth decade. Only 8% (n=4) of cases were present were present in the age group of above fifth decade.

Present study correlates with the study done by Frany VK et al, where higher incidence of fibroadenoma was seen in second and third decade.[4] Fibroadenoma usually occurs in young adult population. The peak incidence is between 25 and 40 years. Incidence of fibroadenoma decreases after 40 years. Fibroadenomas are hormone sensitive, especially to estrogen. Due to this reason fibroadenoma changes their size during pregnancy and menstruation.

Residential locality of patients

In this study 72% (n=36) of cases were from urban area. Minimum number of cases were from rural population. It accounted for 28% (n=14) of cases. Present study correlates with the study done by Soini.I.et al, where they concluded that fibroadenoma is common in urban patients.[5] People in urban area have sedentary life style. They follow unhealthy food habits such as consuming junk food. These factors may contribute to fibroadenoma in urban female. Second probability of this trend could be due to higher literacy, exposure to mass media, awareness of breast cancers screening and affordability in urban population females.

Location of fibroadenoma

Maximum number of patients 86% (n=43) had unilateral fibroadenoma while remaining 14% (n=7) of cases had bilateral fibroadenoma. Present study correlates with the study done by Foster ME et al, where unilateral fibroadenoma were common.[6] Usually fibroadenomas are located unilaterally. The clinical importance of this finding is related with management of patients. In the patients in whom surgical management is planned are subjected to double incisions. When a patient has bilateral fibroadenoma they come under the group of multiple fibroadenoma. It has been found that individual with multiple fibroadenomas are at risk of carcinoma insitu. In such patient's family history of breast cancer should be taken.

Site of fibroadenoma

In this study 34% (n=17) of cases has fibroadenoma in upper lateral quadrant. Next highest was 26% (n=13) of cases, who had fibroadenoma in lower lateral quadrant .20% (n=10) of patient had fibroadenoma in upper medial quadrant. Twelve percentage (n=6) cases had centrally situated fibroadenoma and 8% (n=4) cases had fibroadenoma in lower medial quadrant.

Present study correlates with study done by Kelsey JL et al where fibroadenoma were common in upper lateral

quadrant.[7] As such the cause of fibroadenoma being in upper lateral quadrant could not be found, but it can be predicted that the amount of stromal and fibrous tissue content being highest in lateral quadrant of breast, it acts as common site of fibroadenoma of breast.

Size of fibroadenoma

In this study maximum number of cases i.e. 58% (n=29) had Large fibroadenoma. Large fibroadenoma have size between 1-3cm. Small size fibroadenoma was present in 28% (n=14) of cases. Giant fibroadenoma was present in 14% (n=7) of cases. Present study correlates with study done by Hanna R et al, where the incidence of giant fibroadenoma was lowest.[8]

Giant fibroadenomas are usually encountered during pregnancy or lactation and accounts for 4% of overall fibroadenomas. Giant fibroadenomas are usually rapidly growing, and morphologically mimic malignancy but the truth is they never transform to malignant form. Giant fibroadenomas cause asymmetry of breast, distortion of overlying skin and stretching of nipple. Histologically also giant fibroadenoma are different from simple fibroadenoma as they have more cellular component as compared to lobular component.

Fine needle aspiration cytology finding

Maximum number of patient in this study had pericanalicular type of fibroadenoma. It accounted for 84% (n=42) of cases. Sixteen percentage (n=8) cases had intracanalicular type of fibroadenoma. Present study correlates with the study done by Oluwole et al, where pericanalicular type of fibroadenoma was common.[9] Fine needle aspiration cytology has sensitivity of 86% and specificity of 76% for diagnosing fibroadenoma. Intracanalicular fibroadenoma have more of stromal proliferation and compresses the ductal structure, hence irregular ducts appear as thinned out slits. Pericanalicular fibroadenoma have more of fibrous stroma, which proliferates around the ductal spaces, so that the ducts remain round to oval on cross section.

Clinical features

In present study all patients had well defined, mobile breast lump. All the patient had painless fibroadenoma except one patient who complained of occasional pain in breast lump.

Maximum patient had firm breast lump except 8 cases, which had hard breast lump. There was no associated lymphadenopathy, skin change and discharge. Fibro are fibroadenomas are also known as mouse in the breast because they are freely mobile. They are well encapsulated hence well localized. They are nonvascular. Fibroadenomas are painless and firm structuctures. Rarely associated with skin changes when fibroadenoma is giant. Fibroadenomas being benign are not associated with lymphadenopathy.

Management of patients

In present study 72% (n=36) was treated with surgical excision while remaining 28% (n=14) of cases were treated with conservative management. Present study correlates with the study done by Schuerch C et al, where maximum cases had surgical management.[10] Fibroadenomas are benign breast lesions, and it could be argued that they should not be excised and can be expected to regress spontaneously. Not all women can be candidates for conservative treatment. The patient's age, family history of malignancy, and any data on proliferative changes in the breasts from previous biopsies must be taken in to consideration. Giant fibroadenomas tend to shrink after cessation of lactation, so their removal should be delayed until the patient's hormonal status returns to normal, and a small excision can be performed.

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