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Pattern of breast fibroadenoma in females and its clinical approach: An observational study

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Abstract

Introduction: Comprehensive studies describing the histologic features of fibroadenomas are not available in literature. If hyperplasia behaves in a similar way as in the otherwise normal breast, it may contribute to the higher risk of subsequent invasive breast carcinoma. Hence the aim of this study was to make a thorough inventory of the histologic features of the epithelium and stroma within breast fibroadenomas in a large group of cases.

Materials and Methods: The total period of study was 24 months. A total of hundred patients suspected of benign breast diseases were included in the study. After initial evaluation of the patient in the OPD of medical hospital, by senior residents of general surgery, patients with features suggestive of Benign Breast Diseases were subjected to a detailed history and clinical examination.

Results: The youngest patients were of age 16 years diagnosed with fibroadenoma and the oldest patient was of age 40 years. The mean age of the patients with fibroadenoma was found to be 24 years. Majority of the lumps 76.19% had a size of 2 to 5 cms. The largest lump in the fibroadenoma group was seen in a 16 years old girl with 8x5 cms. Selected cases of fibroadenoma of 2-3 cms in size were reassured and asked for regular follow-up.

Discussion and Conclusion: It has been known for many years that some benign breast lesions are more highly associated with breast cancer than others. In this study the types of benign breast lesions were recorded and the study has shown that benign breast lesions are common in our environment and the age incidence of benign breast lesions peaks in 2nd and third decade and with few exceptions our data was comparable to other studies on breast lesions.

Keywords: Breast tumor, fibroadenoma, benign lesions, knowledge

Introduction

Benign breast disease (BBD) is a very common problem in women. It is 4-5 times more common than cancer, it has been stated that, more than 50% of women suffer from this disease at some time or other during their life time. It can affect both male and female, no age group is immune. It can affect even the neonates ^[1, 2]. Hypertrophy of breast in them is supposed to deliver the witch's milk. Pubertal or senescent male breast swelling is popularly known as gynaecomastia. BBD are primarily a phenomenon seen in the reproductive period of life. They are thought to be largely hormonally induced, so that after menopause and cessation of clinical ovarian stimulation there is dramatic decrease in their incidence ^[3].

Breast health means more than breast cancer. It has been noted that noncancerous pathology of the breast has always been neglected, compared to breast cancer inspite of the fact that benign conditions account for 90% of the clinical presentations related to the breast. About 5-55% of all women suffer from breast disorders in their life time ^[4]. Benign disorders of the breast is usually seen in the reproductive period of life, is thought to be largely hormone induced and there is a dramatic fall in the incidence, after menopause due to cessation of clinical ovarian stimulation. Benign breast disease is 4-5 times more common than breast cancer ^[5].

Adenomas can develop in many body organs, including the thyroid, the colon, and adrenal glands, (any glands). But when it occurs in the breast it is generally called a 'fibroadenoma', in reference to the combination of fibrous and glandular cells that characterize breast tissue. Though benign, there is some concern that over time adenomas could progress and become malignant, so they are taken quite seriously and followed closely ^[6].

Fibroadenomas are one of the most common benign tumors of the breast in women under 30 years of age. In the adolescent population, the overall incidence of fibroadenoma is 2.2%.

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They account for 68% of all breast masses and 44%–94% of biopsied breast lesions. Histologically, fibroadenoma is a benign biphasic tumor with epithelial and stromal components. Furthermore, a palpable mass in the adolescent breast incurs anxiety for both the patient and family [7].

Most fibroadenomas are the simple type, there's usually just one of them in your breast, with a definite border and very uniform cells. A simple fibroadenoma does not raise your risk for breast cancer. Complex fibroadenomas are less common, and while they may have a definite border, it's what is inside this kind of fibroadenoma that makes it different [8]. A complex fibroadenoma will not look organized and uniform like a simple fibroadenoma. Complex fibroadenomas may contain a collection of small cysts, calcifications, enlarged breast lobules, papillomas and different kinds of hyperplasia. When atypical hyperplasia occurs, it raises your risk of developing breast cancer [9].

Ozello and Gump *et al.* [10] reported a combined incidence of 0.3% for *insitu* and invasive carcinoma arising within fibroadenomas. The incidence of apocrine metaplasia and sclerosing adenosis inside fibroadenoma has been reported to be 14% and 6%, respectively. Comprehensive studies describing the histologic features of fibroadenomas are not available in literature. If hyperplasia behaves in a similar way as in the otherwise normal breast, it may contribute to the higher risk of subsequent invasive breast carcinoma.

Since there are clues that fibroadenoma indicates a higher risk of subsequent carcinoma and little is known about lesions occurring within and adjacent to fibroadenomas, the aim of this study was to make a thorough inventory of the histologic features of the epithelium and stroma within breast fibroadenomas in a large group of cases.

Materials and Method

A prospective study was carried out for period of two years in the Department of Surgery, in the medical college in India. The total period of study was 24 months. A total of hundred patients suspected of benign breast diseases were included in the study. The college ethical committee was informed about the study and the ethical clearance certificate was obtained from them prior to the start of study. Patients satisfying the inclusion and exclusion criteria were enrolled in the study.

Inclusion criteria: All patients between the age 16-40 years with Benign Breast Diseases.

Exclusion criteria

1. Patients who have not attained menarche
2. History of trauma to the breast
3. Patients with malignant breast lump
4. Patients who underwent Excisional biopsy before clinical evaluation
5. Patients who are refusing any sort of treatment

After initial evaluation of the patient in the OPD of medical hospital, by senior residents of general surgery, patients with features suggestive of Benign Breast Diseases were subjected to a detailed history and clinical examination. Special enquiry was also made regarding the use of oral contraceptives and menstrual history in females.

All the patients were subjected to FNAC besides routine investigations. After the FNAC, the patients who wanted surgery and in whom surgery was contemplated underwent Excisional biopsy and histopathological examination of the excised lump. The patients were followed up for a period ranging from 1

month to 15 months. The patients on follow-up were re-examined for recurrence and treated accordingly.

Results

The present study consists of 100 patients diagnosed with benign breast disease. Study period was of two years. Maximum numbers of cases were present in the second and third decade of life. Maximum numbers of patients were in the third decade of life. There were only 20 patients more than 30 years of age. The youngest patients were of age 16 years diagnosed with fibroadenoma and the oldest patient was of age 40 years. The mean age of the patients with fibroadenoma was found to be 24 years.

History of use of oral contraceptive pills could be obtained only from 13 patients. Patient had oral contraceptive pills in the past and none of the patients in the study were on pills at the time of presentation. Details regarding parity and menstruation were available in most of the patients. Menstrual irregularities were present in 18% patients. Most patients also complaints of premenstrual breast pain. The types of benign lump were however related neither to the parity nor to the menstrual disturbances. Fine needle aspiration cytology (FNAC) was done for all the cases and histopathological examination was done for 56 operated cases.

The lump in the breast was the predominant symptom, only 14 patients did not notice any lump but complaints of nodularity. Pain was the next common symptom and was present in 24 cases of the patients. Relationship of pain to menstruation was noted in 40 cases of painful fibroadenoma.

In 64 cases the symptoms were present for less than 1 year duration, 12 cases had symptoms for less than a month where as 24 cases had symptoms for more than one year.

The quadrant wise distribution of the lump showed an excess of lesions over the upper half of the breast especially the upper and outer quadrant. 45% of the lumps were found to occupy this quadrant, while 18.18%, 9.09% and 2.27% were located in the upper inner, lower outer and lower inner quadrant respectively. The remainder 11.36% was found in the sub-areolar region and 13.63% occupied more than one quadrant.

Majority of the lumps 76.19% had a size of 2 to 5 cms. The largest lump in the fibroadenoma group was seen in a 16 years old girl with 8x5 cms. Selected cases of fibroadenoma of 2-3 cms in size were reassured and asked for regular follow-up.

Conservative includes reassurance diet changes like low fat, high fiber, vegetarian type diet; a reduction in caffeine intake. These patient were put on a course of capsule vitamin-E and C preparation for 3 months, supplementation of evening primrose oil once daily and application of not compresses to the breast and massaging the breast with castor oil. (Giuliano). No hormonal therapy was administered in any of these cases.

Table 1: Clinic pathological correlation

Clinical diagnosis	Histopathological examination	Not histopathological examination
Positive	24	6
Negative	16	10

Table 2: Different Sizes of lump

Size	No. of cases
Upto 2 cms	8
2 – 5 cms	64
Above 5 cms	12

Discussion

Benign breast diseases encompass a wide range of lesions including inflammatory, neoplastic, and aberrant hormonal response disorders. Increasing awareness of breast cancer the commonest female malignancy worldwide has stimulated profound interest in benign breast lesions since certain epithelial benign breast lesions have been associated with malignant transformation^[11].

Fibroadenoma of the breast is a frequent underlying cause for both palpable and radiologically detected breast masses. It is considered a benign lesion and constitutes a defined entity of an aberration in normal breast development rather than a true neoplasm. Although encountered most commonly in women in their late teens and early twenties, fibroadenoma may occur, albeit infrequently, in older women^[12]. In a significant number of cases, fibroadenoma is associated with additional benign pathological entities of the same group. Dupont *et al.*^[16] assigned the term complex fibroadenoma to those fibroadenomas associated with sclerosing adenosis, epithelial calcifications, cyst formation and apocrine changes. Patients with such an association bear a higher risk of developing an invasive breast cancer^[13].

This study consists of total of 100 cases of fibroadenoma studied for 2 years period. The youngest patient in this study was 16 years and oldest being 40 years. In the current study maximum number of cases that is 46% occurred in the third decade of life whereas 34% and 20% presented in the second and fourth decades respectively. In another study done by Guptha JC *et al.*^[14] showed that 85% of the patients were in the age group of twelve to forty years. Total of 84 cases were found in the age range of 11 – 30 years. In the study done by Rangabhashyam N, Gnana Prakashan D *et al.*^[15] in the Madras Journal reported as 82%.

The commonest type of presentation of fibroadenoma was lump in the breast constituting 82% in this study and pain 24%. According to Haagensen CD lump was common type of presentation. Whereas in stud done by Tibor Dechlonoky's noted pain in 33% of his patients.

In the present study 76% of the patient had symptoms of less than 1year duration and 12% within a month and rest of 24% after a year of starting a symptoms. The duration ranging from 10 days to 4 years. These figures are in agreement with Tibor Decholonoky's study.

Majority of lumps (76.19%) in the present study averaged 2 to 5 cms in size. In 8 patients sizes were within 2 cms, whereas in 12 patients the size was more than 5 cms. There is no relationship in between the duration of lesion and size of lesion. Fibroadenoma are specially slowly growing after attaining the size of 2 cms. Tibor Dechlonoky's study shows that 57% of the benign lumps were less than 2cms. Haagensen emphasized that 28% of this cases was less than 5cms.

Mammography was done in only 14 cases in our study, which reveals homogenous small mass lesion, which suggests benign fibrocystic disease. Even though it is a good non-invasive procedure, it could not be done in all cases due to its non-availability and expensiveness. Majority of the cases underwent simple excision of the lump. Lump occupying all the quadrants of the breast underwent simple mastectomy. These treatment modalities are in agreement with accepted principles of Haagensen series.

Conclusions

Breast masses especially in young age group are a source of anxiety for the patients and surgeons because of risk of cancer

and the potential cosmetic disfigurement following surgery. It has been known for many years that some benign breast lesions are more highly associated with breast cancer than others. In this study the types of benign breast lesions were recorded and the study has shown that benign breast lesions are common in our environment and the age incidence of benign breast lesions peaks in 2nd and third decade and with few exceptions our data was comparable to other studies on breast lesions.

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