

PATTERNS OF BREAST FIBROADENOMA IN FEMALES AND TO CO-RELATE THEM WITH THE CLINIC-PATHOLOGICAL FINDINGS

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Abstract

Background: In premenopausal women, fibroadenoma of the breast is a frequent cause of a benign breast lump. Breast benign conditions are much more common than breast malignant conditions. Present study was done with an aim to study the patterns of breast fibroadenoma in females and to co-relate them with the pathological findings. **Materials and Methods:** The current clinico-pathological study on the in 132 cases was conducted over the course of a year. This study comprised 132 women who received treatment for fibroadenoma. A thorough examination of the mass and axilla was conducted, paying close attention to any possible clinical indications of breast mass malignancy. Mammography and ultrasonography were used to diagnose fibroadenoma in patients older than 30 years (n = 80), and ultrasound alone was used in patients younger than 30 years (n = 52). The clinical diagnoses were compared with the cytological or histological findings wherever possible and their accuracies were evaluated. **Result:** In the current study, the age group of the second decade saw the highest number of benign tumours, followed by the third decade. The majority of breast lesions were found to be 1.5 to 3 cm in size, followed by lesions measuring less than 1.5 cm and larger than 3 cm in number. The typical biopsy process took 40 minutes, with a range of 20 to 60 minutes. When significant bleeding started, the surgery was stopped. **Conclusion:** In women, benign breast illnesses are a widespread issue. The most frequent manifestation is a breast lump. The additional symptoms are nipple discharge and breast soreness. Many of the individuals have many symptoms. The age range of 21 to 30 is the most frequently impacted. The most frequent breast lump is called a fibroadenoma.

INTRODUCTION

More often than malignant breast diseases, benign breast diseases are a common source of breast difficulties in females. Typically, fibroadenoma manifests as a single, hard, rubbery, and non-tender lump. Up to 30% of female patients with benign breast disease will eventually need medical attention. During the initial appointment, a triple assessment consisting of a clinical examination, imaging tests like mammography or ultrasound (USG), and a pathological testing (FNAC or core needle biopsy), enables the majority of patients with discrete BBDs to receive prompt reassurance. Unnecessary surgical operations can be avoided

because the majority of benign lesions are not linked to an increased risk of developing breast cancer in the future.^[1,2]

A fibroadenoma is a solid, not fluid-filled, unilateral, benign (non-cancerous), breast tumour. It is painless. Although it can happen at any age, it most frequently affects females between the ages of 14 and 35. In post-menopausal women, fibroadenomas are less frequent because they decrease after menopause.^[3] Due to their high movement, fibroadenomas are frequently referred to as a breast mouse. Under the surface of the breast, fibroadenomas are a marble-like mass made up of both stromal and epithelial components. These solid, rubbery masses have borders that are always the same size.^[4,5]

In premenopausal women, fibroadenoma of the breast is a frequent cause of a benign breast lump. Histologically speaking, fibrocystic illness refers to a broad spectrum of syndromes that manifest clinically as lumps or lumpiness. Breast benign conditions are much more common than breast malignant conditions.⁵ According to M. Kumar et al. (2010), benign breast disorders are 5 to 10 times more prevalent than breast malignancies in India's rural population. In India, there are many other benign breast illnesses, but breast cancer has received more attention in the media. The incidence of benign breast problems is 1.5 per 1000 general hospital admissions, 6.4 per 1000 surgical admissions, and 8.1 per 1000 admissions of adult females.^[6,7] The most frequent lesion, according to a recent pathological review, is a fibroadenoma, which is followed by breast fibrocystic disorders. Therefore, both the general public and medical professionals should be aware of the terms used to describe benign breast illnesses.^[8] Early diagnosis will aid in improved case management, lessen patient stress in benign situations, and lower morbidity and mortality.

MATERIALS AND METHODS

At a tertiary facility in Gujarat, the current clinico-pathological study on the breast mass in 132 cases was conducted over the course of a year. This study comprised 132 women who received treatment for fibroadenoma. Prior to participating in the study, patients were required to provide written informed consents, and the ethical clearance was obtained in accordance with the criteria of the institute's ethics committee. The study's inclusion and exclusion criteria were as listed below.

Inclusion Criteria

Only cases with histologically proven diagnoses were considered for inclusion in the research.

Exclusion Criteria

Patients who had BIRADS 4 or above on USG/Mammography, women with an obvious other breast disease, patients with an obvious malignancy on clinical examination, and those patients were excluded from the study.

Female patients' complete histories, which included age, marital status, parity, age of menarche, age at first pregnancy, and age at menopause, were kept on file. Postmenopausal patients were those who were 50 years of age or older and had been menstruating for at least two years at the time of presentation. It was noted that there was a family history of breast disorders, particularly breast cancer.

A thorough examination of the mass and axilla was conducted, paying close attention to any possible clinical indications of malignancy. Mammography and ultrasonography were used to diagnose fibroadenoma in patients older than 30 years ($n = 80$), and ultrasound alone was used in patients younger than 30 years ($n = 52$). Mammography

showed clearly defined masses. With or without a capsule or posterior enhancement, ultrasound revealed solid isoechoic or hypoechoic lesions with an anteroposterior-lateral ratio less than 1.

With the aid of a special mammography unit, mammography was carried out. A radiologist with expertise in breast imaging used a variable 7.5- to 10-MHz transducer to do breast ultrasound exams. To assess the vascularization of the lesion and to steer clear of important blood arteries during the biopsy operation, colour doppler ultrasound was used in each case. The largest lateral and largest anteroposterior diameters in the longitudinal scans, as well as the largest anteroposterior diameter in the transverse scans, were used to estimate the lesion size in three dimensions. Based on these measures, the lesion volume was determined.

After the patient received a thorough explanation and gave their informed consent, the treatment was carried out. All biopsies were carried out using the 11-gauge Mammotome Handheld Vacuum Biopsy System by a single, qualified radiologist with competence in interventional breast procedures. The same ultrasound machine that was previously indicated was used to guide the biopsies.

At our breast imaging centre, all biopsies were carried out ambulatorily while under local anaesthesia and sterile conditions. All procedures used an 11-gauge needle. In most cases, the probe was adjusted below the lesion; in patients with lesions bigger than 2 cm at the longest diameter, the probe was adjusted through the lesion. The biopsy was attempted to be performed until there was no longer any sonographic sign of the lesion. When an ultrasound image showed an air or fluid-filled space, the lesion had been completely removed. In situations when complete excision was achieved, a marking clip was put at the biopsy site. On a pre-designed proforma, data were entered, and frequencies of fibroadenoma in various age groups were determined.

RESULTS

The study comprised 132 female patients who visited the gynecology department for breast illnesses and was conducted at the department of gynecology, medical college, and affiliated hospital. In each case, a tissue diagnosis that was consistent with fibroadenoma was made.

In the current study, the age group of the second decade saw the highest number of benign tumours, followed by the third decade. Most patients with histories of less than six months were recorded, followed by those with histories of half a year or more, a year, and then two years, in that order. The youngest patient in this study to visit the department was 15 years old, and the oldest was 73. Most patients were between the ages of 21 and 30, then 31 to 40. Age at presentation was 29.3 years on

average. [Table 1] displays the patients' age distribution.

Patients' symptoms were typically identified as Breast Lump. Breast lumps, which were found in all of the patients, were the most typical appearance. Out of them, 50% of the patients merely had breast lumps, whereas the other 50% had breast lumps and accompanying symptoms. The majority of breast lesions were found to be 1.5 to 3 cm in size, followed by lesions measuring less than 1.5 cm and larger than 3 cm in number.

The typical biopsy process took 40 minutes, with a range of 20 to 60 minutes. When significant bleeding started, the surgery was stopped. Most patients were cooperative throughout the treatment and felt no or little pain. Major issues like shock or infection didn't arise. Only 2 patients (3.6%) suffered more severe bleeding, which was managed by applying pressure and local cold to the area. The day after the treatment, all patients went back to work and resumed their regular routines.

Table 1: Age distribution of benign breast lump in female patients

Age in years	No. of cases
10 – 20	50
21 – 30	72
31 & above	10
Total	132

Table 2: Different Size of lump distribution in various breast lesions

Lesion / lesion size	Upto 1.5 cm	1.5 to 3 cm	> 3 cm	Total
Fibroadenoma	12	108	12	132

DISCUSSION

Breast fibroadenoma is a very frequent issue that typically manifests in young ladies as a palpable tumour. The patient is given the option of receiving surgical removal or conservative management in the form of close follow-up after the triple assessment approach, which includes a typical clinical setting, imaging studies (typically sonography, occasionally mammography), and a reliable tissue diagnosis, has successfully established a confident diagnosis of fibroadenoma. Solitary fibroadenomas in young women are surgically removed in practise, primarily to allay patient worry and anxiety caused by the palpable lump.^[9,10]

The most significant determinant of fibroadenoma occurrence is age. Age is therefore the most crucial element to take into account when getting a medical history. Another important factor is a family history of breast cancer. Compared to patients without this family history, female patients with breast cancer should be closely watched and examined for malignant characteristics. Most frequently, a fibroadenoma will develop in the breast's upper outer quadrant. Physical inspection reveals the following characteristics: Non-tender or painless solid mass that is moving, solitary, and growing quickly. It has uniform borders and a rubbery consistency.^[11]

In contrast to malignant lesions, which continue to increase in frequency after menopause, fibroadenoma incidence starts to grow in the third decade. Since certain studies have indicated the development of the low-risk category to carcinoma,^[12] we encouraged follow-up for both the low and high-risk categories every three months. The majority of patients, 63%, arrived within six months of the breast lesion's emergence, indicating rising awareness among Indian women in rural

areas. In order to employ chemoprevention medications instead of surgery and to improve the histo-pathological criteria for risk assessment, it is indicated that non-morphologic markers (genetic/molecular) are necessary.

Eighty-seven percent of patients in a research by Mima Maychet et al,^[13] complained of breast lumps. In contrast to the series of RatanaChaikanont T,^[14] which included 331 patients with benign breast disease, 87.4% of the women who attended the Wesley Breast Clinic in the study by Foncroft LM et al,^[15] had breast lumps as their primary presenting symptom. All of the individuals in our current study had breast lumps when they were first seen.

CONCLUSION

In women, benign breast illnesses are a widespread issue. The most frequent manifestation is a breast lump. The additional symptoms are nipple discharge and breast soreness. Many of the individuals have many symptoms. The age range of 21 to 30 is the most frequently impacted. The most frequent breast lump is called a fibroadenoma.

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