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# Study of ultrasound diagnose fibroadenomas in north Indian women's of age less than 30 years

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**Abstract**
Fibroadenomas are benign breast tumours characterized by an admixture of stromal and epithelial tissue. Breasts are made of lobules (milk producing glands) and ducts (tubes that carry the milk to the nipple). These are surrounded by glandular, fibrous and fatty tissues. Fibroadenomas develop from the lobules. The glandular tissue and ducts grow over the lobule to form a solid lump. The purpose of the present study is to evaluate a approach to the management of breast fibroadenomas using ultra sound sonography.
The 100 patients having age below 30 years and females were enrolled in the study. The Ultrasound was performed in the range of 7 to 18 MHz Corresponding Fine Needle Aspiration (FNA) cytology. All cytology was classified C1 to C5 where C1, inadequate sample for testing; C2, benign epithelial cells; C3, atypiamore likely to be benign; C4, highly suspicious of malignancy; C4, malignant present.
The total 100 patients undergone the ultrasound sonography diagnosis of the breast fibroadenomaas in females were evaluated for the current study.
Fibroadenoma is common in females. This type of Ultrasound assessment provides a quick diagnosis and it alleviated unnecessary anxiety for the patients about breast cancer. The clinical diagnosis of the breast lump as confirmed by radiology and pathology was accurate. Hence the Ultrasound technique can effectively used for diagnosis of the Fibroadenoma.

**Keywords:** ultrasound, diagnose, fibroadenomas, etc.

## Introduction
Fibroadenoma is the most common benign tumor of the breast. Fibroadenoma is the most common breast tumor in women under age 30. A Fibroadenoma is made up of breast gland tissue and tissue that helps support the breast gland tissue.
Fibroadenomas, are benign breast tumours characterized by an admixture of stromal and epithelial tissue. Breasts are made of lobules (milk producing glands) and ducts (tubes that carry the milk to the nipple). These are surrounded by glandular, fibrous and fatty tissues. Fibroadenomas develop from the lobules. The glandular tissue and ducts grow over the lobule to form a solid lump.
Since both fibroadenomas, and breast lumps as a sign of breast cancer can appear similar, it is recommended to perform ultrasound analyses and possibly tissue sampling with subsequent histopathologic analysis in order to make a proper diagnosis. Unlike typical lumps from breast cancer, fibroadenomas are easy to move, with clearly defined edges [1, 2].
Fibroadenomas are sometimes called breast mice or a breast mouse owing to their high mobility in the breast [3].

## Types of Fibroadenoma
### i) Simple Fibroadenoma
Most fibroadenomas are about 1–3cm in size and are called simple fibroadenomas. When looked at under a microscope, simple fibroadenomas will look the same all over.
Simple fibroadenomas don't increase the risk of developing breast cancer in the future.
### ii) Complex Fibroadenoma
Some fibroadenomas are called complex fibroadenomas. When these are looked at under a microscope, some of the cells have different features.
Having a complex Fibroadenoma can very slightly increase the risk of developing breast cancer in the future.

### iii) Giant or juvenile Fibroadenoma
Occasionally, a fibroadenoma can grow to more than 5cm and may be called a giant fibroadenoma. Those found in teenage girls may be called juvenile fibroadenoma.
A breast cyst is a non-cancerous, fluid-filled sac in the breast. They generally feel smooth or rubbery under the skin and can be quite painful or cause no pain at all. Cysts are caused by the hormones that control the menstrual cycle and are rare in women older than 50. A sebaceous cyst is a non-cancerous, closed sac or cyst below the skin that is caused by plugged ducts at the site of a hair follicle. Hormone stimulation or injury may cause them to enlarge but if no symptoms are present, medical treatment is not required. Breast abscesses are non-cancerous pockets of infection within the breast. They can be quite painful and cause the skin over the breast to turn red or feel hot or solid. Abscesses of the breast are most common in women who are breast-feeding [4].
Adenomas are non-cancerous abnormal growths of the glandular tissue in the breast. The most common form of these growths, fibroadenomas, occur most frequently in women between the ages of 15 and 30 and in women of African descent. They usually feel round and firm and have smooth borders. Adenomas are not related to breast cancer [4].
Intraductal Papillomas are wart-like growths in the ducts of

the breast. These lumps are usually felt just under the nipple and can cause a bloody discharge from the nipple. Women close to menopause may have only one growth, while younger women are more likely to have multiple growths in one or both breasts. Breast cancer usually feels like a hard or firm lump that is generally irregular in shape and may feel like it is attached to skin or tissue deep inside the breast. Breast cancer is rarely painful and can occur anywhere in the breast or nipple. Fat necrosis is a condition in which the normal fat cells of the breast become round lumps. Symptoms can include pain, firmness, redness, and/or bruising. Fat necrosis usually goes away without treatment but can form permanent scar tissue that may show up as an abnormality on a mammogram. A lipoma is a non-cancerous lump of fatty tissue that is soft to the touch, usually movable, and is generally painless [4].

Breast hematomas and seromas may be visible as a local swelling of the breast. Seromas are a common complication of breast surgery. Hematomas can also occur after breast surgery or breast injury or, more rarely, they can occur spontaneously in patients with coagulopathy.

Breast lumps are often discovered during a breast self-examination or during a routine check-up. Upon noticing an unusual lump in the breast the best course of action is to schedule an examination with a physician who can best diagnose the type of breast lump and strategy for treatment. Patients should make sure that the medical records of any breast-related illnesses are retained [5], as this facilitates diagnosis in case of recurrence or follow-up.

The typical case is the presence of a painless, firm, solitary, mobile, slowly growing lump in the breast of a woman of child-bearing years [6]. In the male breast, fibro epithelial tumors are very rare, and are mostly phyllodestumors. Exceptionally rare case reports exist of fibroadenomas in the male breast, however these cases may be associated with anti-androgen treatment [7].

The purpose of the present study is to evaluate a approach to the management of breast fibroadenomas using ultra sound sonography.

## Methodology

This prospective observational study was conducted in the Department of Radiology, in Anugrah Narayan Magadh Medical College and Hospital . Patients with breast lumps were included in the study. Ethical committee clearance and informed consent from the patients were obtained. The site of lump and extend of disease was recorded.

The 100 patients having age below 30 years and females were enrolled in the study. The Ultrasound was performed in the range of 7 to 18 MHz Corresponding Fine Needle Aspiration (FNA) cytology. All cytology was classified C1 to C5 where C1, inadequate sample for testing; C2, benign epithelial cells; C3, atypiamore likely to be benign; C4, highly suspicious of malignancy; C4, malignant present.

### Inclusion criteria

Which includes all patients with symptom of breast disease including breast pain, palpable breast lump, nodularity, nipple discharge, nipple retraction, ulceration, enlargement of breast and swelling in the axilla were included and all asymptomatic patients coming voluntarily for preventive health checkup.

### Exclusion criteria

Included all patients with an obvious malignant disease or those who had been treated for malignancy earlier.

## Results & discussion

The total 100 patients undergone the ultrasound sonography diagnosis of the breast fibroadenomas in females were evaluated for the current study. The table 1 indicated the demographic information of the enrolled patients.

**Table 1:** Demographic data

| Age | No. of Patients |
|---|---|
| 15-20 years | 12 |
| 21-25 years | 68 |
| 26-30 years | 20 |
| Urban | 79 |
| Rular | 21 |

**Table 2:** Observation of the fibroadenomas

| Observations | No. of cases |
|---|---|
| C1: Inadequate sample for testing | 15 |
| C2: Benign epithelial cells; | 54 |
| C3: Atypia more likely to be benign | 01 |
| No fibroadenomas | 30 |
| Total | 100 |

Fibroadenoma of the breast is an extremely common problem, usually demonstrated as a palpable mass in young females. After establishing a confident diagnosis of fibroadenoma with the triple assessment approach, i.e. typical clinical setting, imaging studies (usually sonography, sometimes mammography), and a reliable tissue diagnosis, the patient is offered either surgical removal or conservative management in the form of close follow-up [8].

Patents undergoing breast biopsy can experience clinically marked levels of anxiety, whether it is an open biopsy or needle biopsy. In fact, the anxiety levels for a breast biopsy have been reported to exceed the anxiety levels for patients who undergo elective surgery [9].

Clinically significant levels of anxiety have been reported in a sample of women who were anticipating, undergoing, and remembering breast needle biopsy [10]. Anxiety can also be caused by having to wait (usually a week, in our department) for histology results and then waiting for a follow-up appointment for the results to be relayed to the patent. All FNAs were then discussed in the multidisciplinary meeting, and all patents were then seen in the outpatient clinic, which often have to be overbooked. Eliminating FNA in such patents would not only result in an increase in efficiency and cost-effectiveness, but also reduce the added anxiety that the procedure can cause to the patent.

## Conclusion

Fibroadenoma is common in females. This type of Ultrasound assessment provides a quick diagnosis and it alleviated unnecessary anxiety for the patients about breast cancer. The clinical diagnosis of the breast lump as confirmed by radiology and pathology was accurate. Hence the Ultrasound technique can effectively used for diagnosis of the

Fibroadenoma.

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