



## Role of Imaging in Benign Breast Disease

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### ABSTRACT

*Non invasive techniques of imaging in benign breast disease are proving to be an important tool in the diagnosis and management of Benign breast disease. Mammography and Ultrasonography are two important non-invasive techniques which can substantially prove to be an important diagnostic tool in the management of benign breast disease. Some benign breast disease like fibroadenomas and phylloids tumors have to be evaluated for any component of malignancy unless otherwise proved. Even if a clinical finding are benign, an imaging technique gives reassurance to the patient and reduces psychological worry. Benign breast disease are on the rise and are a common cause of psychological distress in women, especially of younger age group.*

### INTRODUCTION

Before subjecting a benign lesion in breast to FNAC or tru-cut biopsy a simple radio- imaging like USG or Mammography can help in the diagnosis and management of Benign Breast disease. Screening mammography is used to detect cancer in asymptomatic women when cancer is not suspected. Diagnostic mammography is used to evaluate patients with breast symptoms or complaints, such as nipple discharge or a palpable mass: patients who have had abnormal results on screening mammography; or patients who have had breast cancer treated with breast conservation therapy. Screening or diagnostic mammography consists of at least two standard views: craniocaudal and mediolateral oblique. After analyzing the mammographic images radiologists classify findings into a final assessment category. The Breast Imaging

Reporting and Data System (BIRADS) final assessment classification was developed by the American College of Radiology to standardize mammographic reporting.

Breast Imaging Reporting and Data System Classification: Final Assessment Categories

Assessment	Category	Recommendation
0	Need additional imaging evaluation	Add views or ultrasound
1	Negative	Annual mammography
2	Benign finding	Annual mammography
3	Probably benign finding—short interval follow-up suggested	Unilateral mammography 6 months and bilateral examinations 12 and 24 months after initial examination
4	Suspicious abnormality	Biopsy should be considered
5	Highly suggestive of malignancy—appropriate action should be taken	Biopsy
6	Known carcinoma	

Most mammographically visible cancers present as *masses* & calcifications, architectural distortion or a combination of the three .Masses and calcifications account for about 90% of all breast cancers. A mass is a space occupying lesion

that can be detected in two projections. If a finding is only seen on one projection it is referred to as a density. A density may or may not prove to be a real finding after directed diagnostic imaging. Masses are characterized by their shape, margin, density and associated microcalcifications to determine the probability of malignancy. The shape of a mass can be described as round, oval, lobulated, or irregular. Round or oval masses are usually benign. Masses that are irregular imply a greater probability of malignancy. Lobulated masses suggest an infiltrative growth pattern that may be suggestive of malignancy. Similarly, margin assessment is important because of the infiltrative nature of most breast cancers. Margins can be described as circumscribed, microlobulated, obscured, indistinct, or spiculated. A circumscribed margin that sharply delineates a mass from the surrounding tissue is commonly a benign finding, as seen in a fibroadenoma or a cyst. A mass with spiculated or stellate margins is suspicious for malignancy. Calcifications are a common mammographic finding. Most calcifications are not associated with malignancy. When found the shape or morphology, location, number, and distribution of the calcifications should be noted. Malignant-appearing calcifications are usually less than 0.5 mm. Pleomorphic or heterogeneous, and grouped. They can also be fine, linear and branching. Indicating an intraductal process.

Ultrasonography helps in knowing the consistency of tumor. Cystic masses are readily identified with ultrasound. Cysts are anechoic, oval or round lesions with well-circumscribed margins. Because the cyst contents will transmit the ultrasound wave, posterior acoustic enhancement is visualized. When the above features are present the diagnostic accuracy of ultrasound in evaluating a simple cyst approximates 100%. Solid masses may have benign or malignant features. Malignant features of a solid mass on ultrasound are irregular margins, hypoechoic to the surrounding tissue, with posterior acoustic shadowing. Malignant-appearing masses usually

have a vertical growth appearance taller than wide. Benign features include ellipsoid shape, hyperechogenicity or hypoechogenicity, and smooth, well-circumscribed margins.

### AIMS AND OBJECTIVES

- To provide assurance to the woman having benign lesions in breast or fibrocystic disease which can be treated conservatively.

### INCLUSION CRITERIA

- Benign breast disease clinically appearing so.

### EXCLUSION CRITERIA

- Clinically malignant tumors.

### MATERIALS AND METHODS

A total of 50 patients with one or more lumps in unilateral or bilateral breasts were taken. After clinical examination the mobile lumps with no fixity and no axillary nodes and firm to soft in consistency were subjected to ultrasonography and mammography.

### OBSERVATION

Lesions with BIRADS 1,2 and 3 were sent for ultrasonography and FNAC. Later subjected to excision of lump and sent for histopathological study. In BIRADS 1 only assurance was given and abscess were incised and drained followed by antibiotic and dressing.

BIRADS	PATIENT / SYMPTOMS/SIGN	CONCLUSION
2	20 patients with unilateral or bilateral mastalgia	Vague tender nodular lump in 20 patients
2 & 3	25 patients has lumps in breast	20 fibroadenomas non tender (unilateral/bilateral) 10 vague lumps tender
1	3 patients	No lumps but axillary tails lipomas
2	2 patients	Abscess and inflammatory lesions.

**CONCLUSION**

All the patients were sent for mammograms and then a plan of management was made. This helped us as well as gave assurance to the patients regarding the treatment. So mammogram is an important diagnostic tool for management of benign breast disease.