

# COMPARATIVE STUDY OF MAMMOGRAPHY AND ULTRASONOGRAPHY OF PALPABLE BREAST MASSES AND CO-RELATE WITH HISTOPATHOLOGICAL FINDINGS



## Medical Science

KEYWORDS :

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### ABSTRACT

*This is the study of 50 female patients having the complain of breast lump .Few of them having complaining breast pain.All the patients are examined by the surgeon with their clinical findings and send them for USG and mammography .All the patients are examined by histopathological finding and follow up after surgical evaluation of each patient.And my conclusion is mammography and ultrasonography have similar sensitivity but specificity of mammography increases with use of ultrasonography. Mammosonography findings correlates well with histo pathological diagnosis.Benign lesions have typical predominance under age of 40 years, while malignant lesions have peak after age of 40 years.Fibro adenoma is very common in young females below age of 40 years & most common lesion in this age group encountered during study.*

### AIMS AND OBJECTIVES

- To evaluate role of mammosonography in palpable breast lumps
- To comparison with histological and surgical finding
- To check sensivity and specificity in of palpable breast masses in mammosonography.

### METHODES AND MATERIALS

- This retrospective study was done in patients presenting with palpable breast lesions
- Outdoor patients refered by surgeons were included in this study
- 50 patients are subjected to mammography and sonography examination
- Results were compare with histological finding

### BREAST IMAGING AND REPORTING AND DATA SYSTEM (BIRADS)

GRADE 0 - Incomplete assessment

GRADE 1- Normal

GRADE 2 – Benign ( intramammary nodes , simple cysts , benign solid nodules as lipoma)

GRADE 3 – Probably benign ( complicated cyst ,fibroadenoma , ductal pappiloma )

GRADE 4 – Suspicious lesion

GRADE 5 – Malignant lesion

GRADE 5 – Biopsy proven malignant lesion

### BREAST LESION

#### (1) Neoplastic

- Fibroadenoma
- Lipoma
- Ductal papilloma
- Phyllodes tumour
- Malignancy

#### (2) Non neoplastic

- Cysts
- Fibroadenosis
- Fat necrosis
- Ductal ectasia
- Galactocele
- Abscess
- Tuberculosis

### BREAST LESIONS

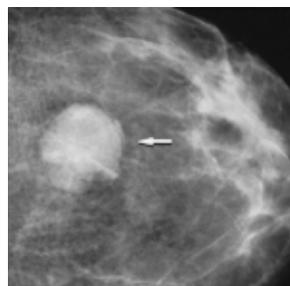
#### Fibroadenoma

- Most common benign breast tumour and most common solid mass < 35 years. 10 – 20 % multiple and bilateral in 4 %
- Palpable
- On USG generally oval but may be round , homogenous echotexture.Posterior enhancement variable and can have post acoustic shadowing when hyalinized or contain calcium( fig. 1)
- Tend to regress with age , undergo myxoid degeneration giving Pathognomic popcorn calcification on mammography( fig. 2)
- Giant fibroadenoma are > 5 cm may grow upto 15 cm

Fig. 1



Fig. 2



### MALIGNANCY ON MAMMOGRAPHY ( Fig. 3)

- Ill define margin,Spiculation,Comet tail
- Microcalcification
- Linear calcification
- Microlobulation
- Branching pattern

### ON SONOGRAPHY ( Fig. 4)

- Poorly reflective mass
- Ill defined mass
- Heterogenous internal echo pattern

- Absent 'far wall' echoes
- Posterior acoustic shadowing

Fig.3

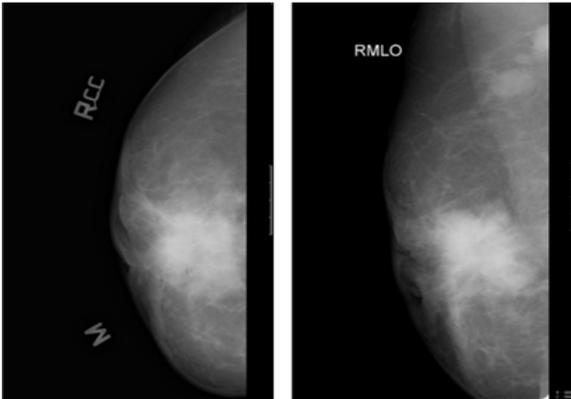


Fig. 4



**PHYLLODES TUMOR ( Fig. 5,6)**

- Stromal tumour composed of epithelial elements of connective tissue stroma similar to fibroadenoma
- Multinodular palpable mass
- Well define mass
- Cystic component may be seen on USG
- Malignant phyllodes tumour is a sarcoma
- Axillary lymphadenopathy is less common but lung metastases are more common

Fig.5



Fig.6



**INTRADUCTAL PAPILLOMA**

- Proliferation of ductal epithelium
- Duct around them can dilate forming a cystic structure giving the appearance of an intracystic papilloma
- On mammogram most of papilloma not seen Larger papilloma are seen round or oval mass with benign morphology ( Fig.8)
- Mulberry lie calcification in subareolar region
- On USG ,Typical finding of dilated duct with solid round or oval intraluminal mass ( Fig. 7)

Fig. 7

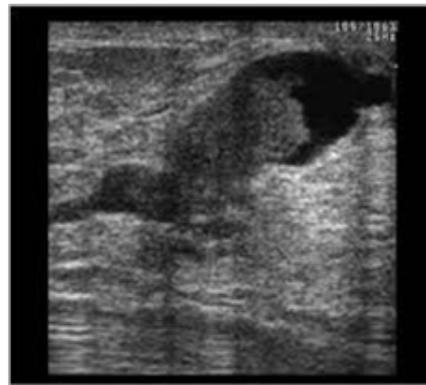


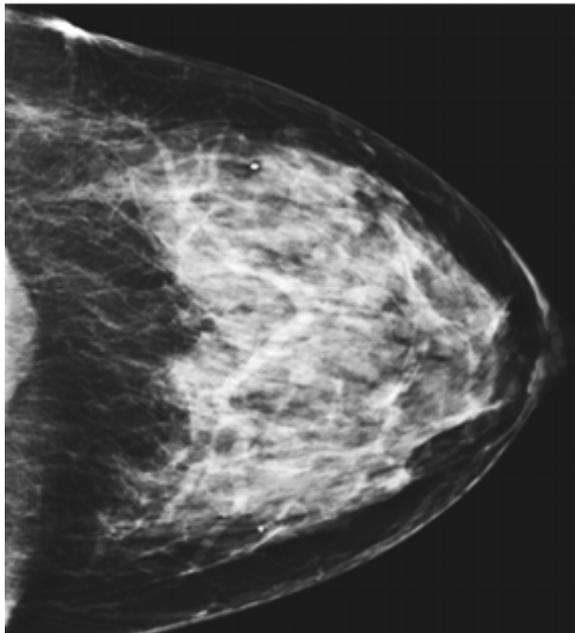
Fig. 8



**FIBROCYSTIC BREAST DISEASE**

- Breast cyst develop when lumina of ducts become dilated and lined by atrophic epithelium
- On mammogram cyst seen as well define, round or oval mass

(Fig.9)



- Calcification is infrequent however ‘ tea cup’ calcification seen when microcyst may contain milk of calcium
- On USG ,breast cyst is sharply marginated , anechoic with posterior acoustic enhancement

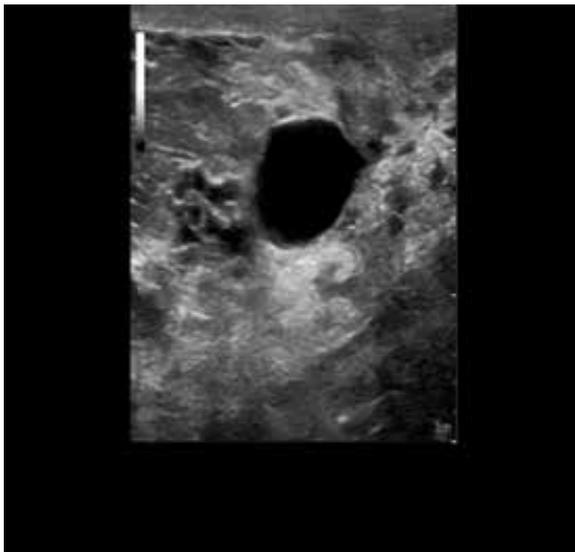


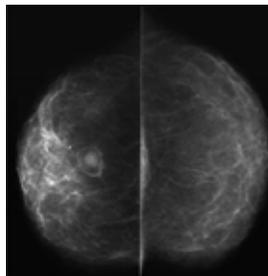
Fig.10

**FAT NECROSIS**

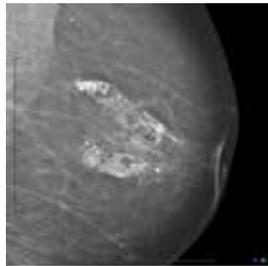
- Inflammatory process of breast related to prior trauma or surgery
- Ocassionally necrosed fat may form a gelatinous oil cyst with fibrous wall
- On mammogram, Superficial location ,surgical bed common site ( Fig. 11)
- Fat necrosis appear as speculated or irregular mass
- Calcification is common
- Oil cyst shows a round smooth lucent mass with calcified

rim with egg shell appearance

- Post traumatic oil cyst may show varying echogenicity on ultrasonography (Fig. 12)



(Fig. 11)



(Fig. 11)



(Fig. 12)



**GALACTOCELE**

- Galactocele is cyst filled with inspissated milk during pregnancy or lactation
- On mammogram well define dense lesion like a cyst or a radiolucent mass surrounded by dense lactating breast parenchyma( Fig. 13 )
- Common site is retro areolar central breast
- On USG ,simple or complicated cyst or a solid mass with posterior acoustic enhancement ( Fig 14)

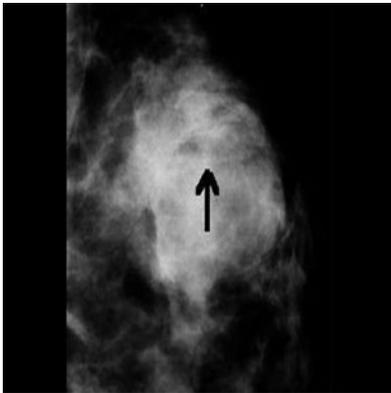


Fig.13



Fig.14

**BREAST LESIONS DIAGNOSED IN STUDY**

DIAGNOSIS	No of patient
Fibroadenoma	27
Malignancy	14
Fibrocystic breast disease	4
Fat necrosis	2
Phyllodes tumor	1
Ductal papilloma	1
Galactocele	1

**AGE DISTRIBUTION**

DISEASE	0-20	21-40	41-60	>60
Fibroadenoma	4	18	5	-
Malignancy	-	1	5	8
Fibrocystic breast disease	-	4	-	-
Fat necrosis	-	2	-	-
Phyllodes tumor	-	1	-	-
Ductal papilloma	-	1	-	-
Galactocele	-	1	-	-

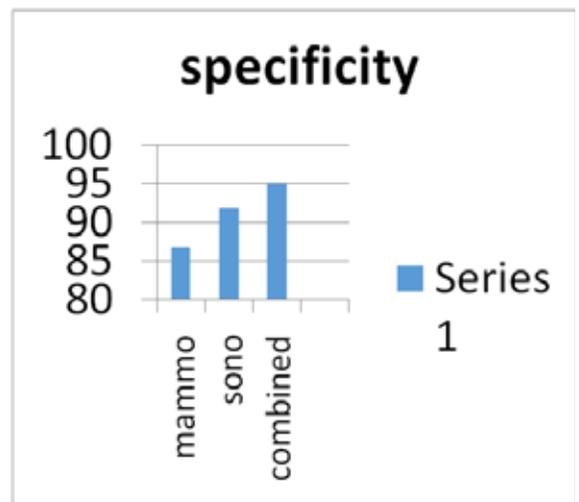
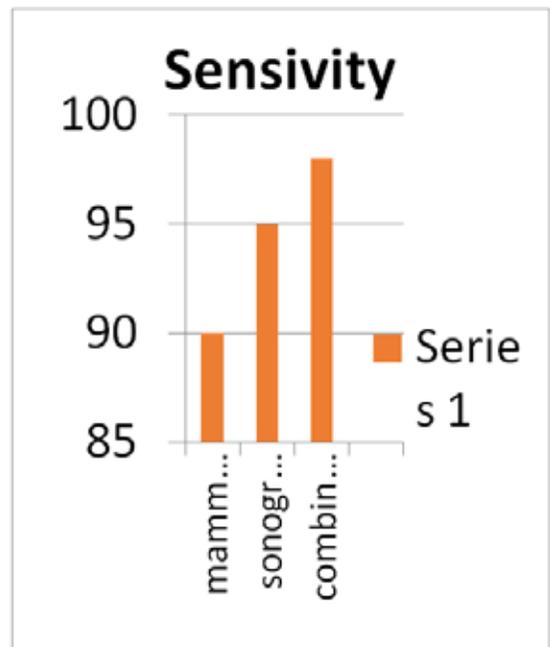
**CONCLUSION**

- Mammography & sonography is having almost similar sensitivity in detecting various palpable breast lesions, but specificity of mammography increases with use of sonography.
- Mammosonography findings correlates well with histopathological diagnosis.

- Benign lesions have typical predominance under age of 40 years, while malignant lesions have peak after age of 40 years.
- Fibroadenoma is very common in young females below age of 40 years & most common lesion in this age group encountered during study.

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