

Diagnostic Efficacy of Sonomammography and FNAC in Breast Lump, Comparison with X-Ray Mammography

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For this study 46 females were chosen with lumps in either of the two breasts and with strong clinical suspicion of malignancy. All these were subjected to sonomammography and fine needle aspirations cytology at the same time and later x-ray mammography was done. Equipment used for sonomammography was Toshiba (Tosbie) with 7.5 and 3.5 MHz probes. For x-ray mammography (Toshiba) dedicated unit for mammography used for FNAC 10cc syringes and two glass slides were used for each study. Patients were subjected to sonomammography and FNAC was done in the same sitting with the assistance of Pathologist. Findings noted and then were subjected to X-ray mammography.

Key words: Breast lump, tumor, sonomammography., mammography

X - ray mammography is advised by physicians whenever there is a palpable lump felt in either. This investigation is time consuming, expensive, and with radiation hazards. More over it has some of its own limitations in terms of interpretation. In the opinion of the authors it is not necessary to advise x-ray mammogram in all patients with a palpable lump in the breast.

This study was carried out to establish conclusive role of ultrasound and FNAC in the diagnosis of nature of the lumps in the breasts.

Materials

Forty six female patients were subjected to sonomammography. All these patients were picked from surgical outdoor of Mayo Hospital, Lahore and were clinically diagnosed as malignant breast lumps. Fine needle aspiration with 10cc disposable syringe and two glass slides were done in the same sitting. After this patients were subjected to x-ray mammography on a Toshiba dedicated mammography unit.

Methods

Sonomammography

Patient is supine on couch with properly exposed, breast to be examined. Transducer is placed directly over the lump, transverse and longitudinal scans are performed, the entire lump is scanned like wise. Rest of the breast is scanned in radial fashion. In the same sitting axillary scan is done to see if there are any enlarged lymph nodes. Abdominal ultrasound is done at the same time to look for any secondaries in the liver or in the abdomen.

FNAC

With the help of 10cc disposable syringe after cleaning skin over the lump needle is introduced in the periphery of the lump and the plunger of syringe is pulled out. Aspirate collected in syringe is placed on two slides for microscopic examination.

X-Ray Mammography

X-ray mammography for comparison of each patient was carried out and mediolateral oblique views were taken. The breast is between film and the source, film is lateral and tube is medial.

Fig. 1 Ultrasound of breast lump

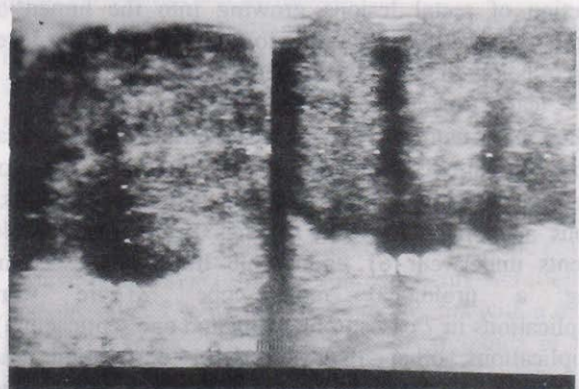


Fig.2 X-ray mammography of same patient



Fig. 3. Ultrasound of carcinoma breast.



Fig. 4. X-ray mammogram of breast lump



Fig. 5. Ultrasound of cystic mass

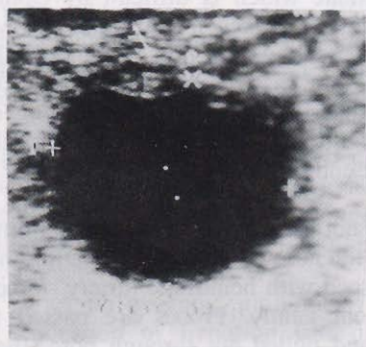


Fig. 6. Cystic mass on mammogram



Result

Sonomammography

Malignant	Benign		
	Abscess	Fibroadenoma	Cysts
34	02	04	06

Fine needle aspirations cytology

Malignant	Benign	Inconclusive
34	08	04

X-ray mammogram

Malignant	Inconclusive
32	14

If all forty six patients are considered then the sonography has positive results of 74% and FNAC had positive results of 91.3% x-ray mammography had positive results of 70% only.

Discussion

Female with lump in the breasts are usually referred by the clinician to Radiology Department for x-ray mammography. This investigation is done by only those centres which are equipped with dedicated mammography machines. Such centres are not many, therefore this investigation is time consuming and expensive.

Moreover, it has limitations of interpretation as it cannot differentiate between solid and cystic mass. Sonomammography along with FNAC in the same sitting are less time consuming and more informative. There are no radiation hazards. For the investigation of the breast lump it is sonomammography to diagnose and support the diagnosis with FNAC in same sitting as compared to performing x-ray mammography alone.

Conclusion

This study shows that the patients with strong clinical suspicion of malignant breast lumps subjected to sonomammography and subsequent fine needle aspiration cytology is sufficient to establish correct diagnosis. Sonomammography can also help differentiate between solid and cystic lesions of the breasts.

X-ray mammography is much more expensive and hazardous.

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