

## COMPARISON OF CLINICAL, MAMMOGRAPHIC AND HISTOPATHOLOGICAL DIAGNOSIS OF A BREAST MASS

By

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### ABSTRACT:

60 patients include (58 females and 2males) were presented with either Clinical or mammographic breast masses during the period from 1993 up to 1995. clinical examination, mammography and histopathological examinations were compared in the total group of patients. It was also necessary to clarify if open biopsy is necessary in every case presented with a breast lump or there were other diagnostic method. It has been concluded that patient presenting with a breast lump must be assessed clinically, then soft tissue mammogram to confirm the clinical impression especially if malignancy is suspected. However a biopsy must be carried out for every patient presenting with a breast lump.

### INTRODUCTION:

Breast cancer is the the most common

cancer among Egyptian females. It accounts for 34% of the total malignancy (Ibrahim et al. 1982), So the presence of breast lump is an alarming finding in females, because they fear from the presence of cancer A good assessment is very important in estimating the probability presence of cancer.

### PATIENTS and METHODS.

This work included 60 patients (58 females and 2 males) presented with a breast lump to al-Hussin and Bab-El Sharia University hospitals during the years 1993/ 1995.

Their ages, ranged between 37-50 years but of the 60 patients 8 were single and 52 were married (44 patients were breast feeders. They included two male patients presented with breast masses suspected to be of malignant nature on clinical examination.

### Clinical Presentation

The first group 44 patients (73.3%) presented with a breast lump palpable on clinical examination and ranged between 2x2 cm. up to 5x8 cm. in diameter.

The second group included 5 female patients (8.3%) presented with a discharge per nipple and on mammographic examination a mass was detected. Patients without mammographic mass were subjected to microdocheotomy and histopathological examination and were excluded from the study and included 10 patients.

The third group included 4 patients (6.7%) presented with excematous like lesions around the nipple (paget's disease of the breast) and on mammographic examination a mass was detected under the areola. Patients without masses were excluded including 6 patients.

The fourth group included 7 female patients (11.7%) presented with pain in the breast (included 3 female patients above 45 years old). Out of the 58 female patients, 14 (24.1%) were taking contraceptive pills fore more than one year (2-8 years). Eight of them (57.1 %) had a malignant lesions and 6 (42.8 %) had a benign lesion.

### Axillary Lymph nodes:

Examination of the axilla in the 60 patients revealed palpable mobile lymph nodes in 12 patients (10 females and two males). The number of axillary lymph

nodes ranged between 2 nodes up to 6 nodes and they were firm in consistency in 10 patients and hard in two patients (male patients). They were mobile and associated with mild oedema of the arm in two patients. Axillary lymph nade were screened for breast masses (high-risk group) and on mammographic examination a breast mass detected. In two female patients, axillary lymph nodes were enlarged without palpable masses in the breast and on mammographic examination a mass was detected in the epsilateral breast.

### Distant metastasis.

Examination for distant metastasis revealed no evidence of distant metastasis except in 6 female patients where tenderness over the vertebral coloumn and iliac bones was detected. Isotopic bone scan revealed bone metastasis in 4 female patients.

### Mammographic Examination:

All the 60 patients were subjected to mammographic examination.

The results of the radiological examination were recorded . as follow:

First group: 14 cases were diagnosed as fibroadenosis (X 4 %).

Second group: included 6 cases diagnosed as breast abscess (3.6 %).

Third group: included 25 cases diagnosed as malignant lesions (15%).

\* 5 cases of carcinoma with dilated duct.

- \* 8 cases of scirrhous carcinoma
- \* 9 cases of spiculated scirrhous carcinoma
- \* 2 cases of Mucoïd carcinoma
- \* one case of Diffuse malignant infiltration

Five cases were diagnosed as non-neoplastic lesions (3 cases Fatty atrophic breast and 2 cases as chronic mastitis).

#### *Biopsy Examination:*

All patients with proved breast masses either clinically or radiologically were subjected to biopsy and histological examinations. Fine needle aspiration biopsy was done and masses proved of malignant nature were subjected to mastectomy operation and histopathology was done from the removed specimen. Patients with negative cytological examination were subjected to open biopsy and histopathological examinations done to the specimen and the result recorded.

#### **RESULTS:**

##### *Clinical findings:*

##### *Age incidence*

Breast masses showed a maximum incidence of the fifth decade of life (20 patients, 33.3%) while the lowest incidence occurred in the second decade (2 patients 3.3%).

The number of mastitis increased with parity (6 out of 8 patients). also the num-

ber of benign lesions was high in nullipara (6 patients out of 22 patients).

The incidence of malignant lesions was high in the late menopause (16 patients out of 30 patients 53.3%), While the incidence of benign lesions was high in the premenopausal (28 patients out of 30 patients 93.3%).

In patients with benign lesions, the incidence of cyclical mastalgia was high (16 patients out of 30 patients 53.3%), while only 4 patients out of 30 patients 13.3 % presented with cyclical mastalgia in cases of malignant lesions.

The main presenting symptoms was breast lump in 44 patient ( 73.3 % ) nipple discharge (5 patients 8.3% ), skin changes in the form of excematous- like changes (4 patients 6.7%), and inpalpable breast masses detected in the mammographic examination in the 7 patients 11.7 %.

The last group included 4 patients with breast pain, two patients with axillary lymph nodes and two patient with previous history of breast cancer in the mother or sister.

In benign lesions most patients came after a long time from the onset of symptoms (12 patients 20%), while in cases of malignancy most patients come after a short time from the onset of the symptoms (6 patients 10%). Out of 60 patients, 14 patients 23.3% were taking contraceptive pills more than one year (2-8years).Eight of them had a malignant

lesions, and 6 had a benign lesions. In benign lesions, the size of the mass ranged from 2-4 cm and in malignant lesions, the size ranged from 2-10 cm in the greatest dimension.

The breast masses appeared dense well circumscribed in 16 patients in fibrocystic and fibroadenomas, 6 patients in duct ectasia, 1 patient in phylloid tumours, 4 patients in chronic mastitis, and 3 patients in carcinoma. Masses with irregular margin, stellate margin appear in 25 patients.

Carcinoma in situ is not detectable mammographically.

#### *The Result of Histopathology*

Histopathological examinations revealed that in the 60 patients of breast lump there were duct ectasia in 6 patients.

Fibrocystic disease in 8 patients.

Fibroadenoma in 4 patients (solitary), and (multiple) fibroadenoma in 2 patients.

Chronic matitis in 4 patients. Duct papilloma in 4 patients, angiolipoma in one patient, Benign phylloid tumour in one patient. Malignant tumour with infiltrating duct carcinoma in 24 patients, mucinousadenocarcinoma in 2 patients, paget's disease in 2 patients, medullary carcinoma in 1 patients and lobular adenocarcinoma in situ in 1 patient.

The accuracy of the clinical diagnosis in relations to final histopathological and mammographic findings of breast masses was 34 patients (76.6%), While in mammographic 32 patients (73.5%) in patients with breast masses (included 44 patients) comparison between the diagnostic value of clinical diagnosis and mammographic changes in the diagnosis of the breast masses revealed that the sensitivity in clinical diagnosis was high 93% while in mammography it was 89.5% .

The specificity was equal in both 60 %, and the accuracy was 73.4% by mammography.

Table (1): Relation between the main presenting symptoms and pathological changes.

Diagnoses	Mass	Pain	Nipple discharge	Skin Change	Other
Benign lesion	20	3	2	1	3
Malignant lesion	24	-	2	3	1
Total	44	3	5	4	4

Table (2): Results of Mammographic Examinations of malignant lesion

Radiological findings	No. of cases
Irregular mass more than 5 cm	12
Perifocal hazzness	14
Deformity of architicture	22
Coarse calcifications	18
Nipple retraction	15
Localized skin dimpling	10
High density mass lesion	24

Table (4):

Diagnoses value	Clinical Diagnoses	Mammograhly
Sensitivity	93 %	89 %
Specificity	60 %	60 %
Accuracy	76.6 %	73.4 %

Table (3): Radiological findigs corresponding to clinical data, regarding the size of the tumour and others.

Radiological Size	Clinical size	No. of cases
4-8 cm	5-10 cm	20
Deformity of architicture	irregular lump	10
Irregular outline	decreased mobility	15
Asymmetric growth	hard mass	8
Perifocal hazznis	oedema of arm	14
Dilated duct	nipple discharge	6

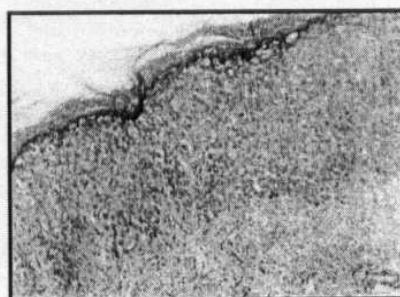


Fig. 2: Histopathology of Mucooid carcinoma.



Fig. 1: Smooth, Dense, Lobulated, Colloid carcinoma.



Fig. 3: Scirrhous Carcinoma with Tentacles, Spicules.

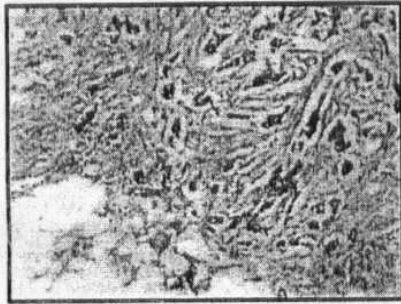


Fig. 4: Histopathology of Scirrhou carcinoma.

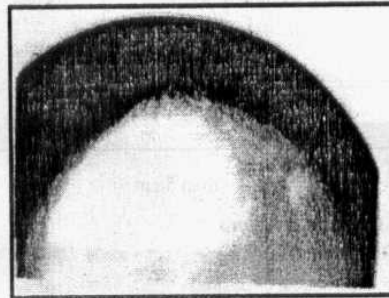


Fig. 5: Fibroadenoma.

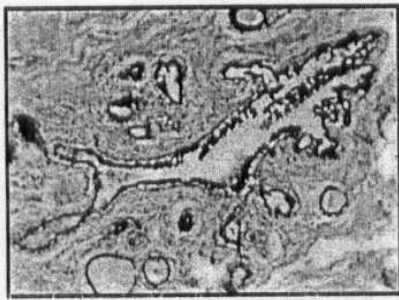


Fig. 6: Histopathology of Fibroadenoma.

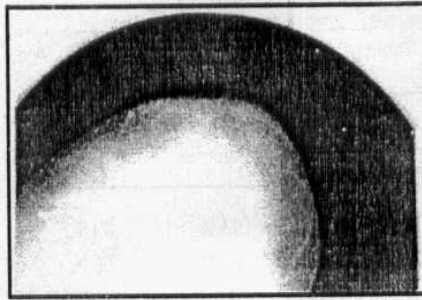


Fig. 7: Interstitial mastitis.

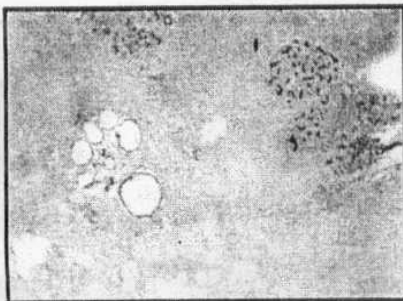


Fig. 8: Histopathology of mastitis.

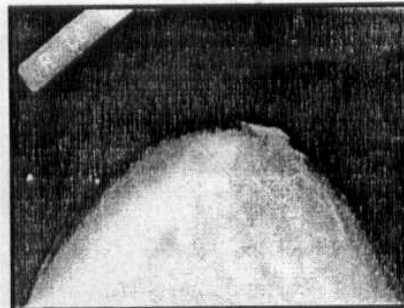


Fig. 9: Chronic abscess.



Fig. 10: cysto - sarcoma - philloids.



Fig. 11: Duct carcinoma.

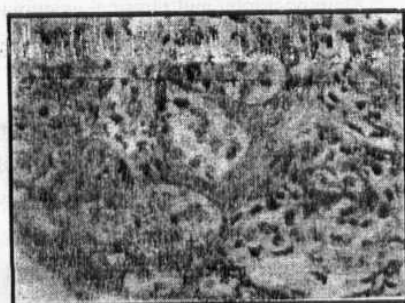


Fig. 12: Histopathology of Duct Carcinoma.

#### DISCUSSION:

The presence of breast lump is an alarming finding in females at all ages.

In view of the high prevalence of breast cancer, early accurate diagnosis of breast masses present the best opportunity for the patient. It also affords the most important point is making the decision about the proper therapeutic strategy to be followed.

Many centers now adopt the diagnostic triad in the diagnosis of breast masses. This triad is formed by physical examination, fine needle aspiration and soft tissue mammography (Wanebo et al 1984).

In this present work, 60 patients with breast masses were admitted at the surgery department where cooperation was done between the radiological and pathology departments.

Clinical examination was done, mammography followed by excisional biopsy. Histopathology examination of the specimen was done for every patient.

The age incidence showed maximum incidence in the 4th decade (23.3%) and in the 5th decade (33.3%) and the minimum incidence in the 2nd decade of life (3.3%).

No tumors were reported in this study in children.

The results of this work were in agreement with the results of Schwartz et al

(1989), Who reported that, the risk of breast cancer raises gradually to reach plateau between the age of 40 years and 55 years, breast cancer is rarely below the age of 20 years.

Also in our study hormonal intake was positive in 7 patients (23.3%) and in 4 patients of them (13.3%) malignancy was detected. Sherman and Koremanan (1974) reported that the oestrogenic stimulation of breast cell growth may provide a setting favourable for the development of breast cancer.

The world health organization (1966) was against the use of oral contraceptive pills by patients with history or suspicion of cancer as reported by Contess and Omar (1984) Who also reported that estrogen may be a causative factor of female breast cancer when increases after middle age.

In the present study of the patients with breast cancer there was male having bilharzial hepatosplenomegaly (diagnosed also by ultrasound), and this may be attributable to the high oestrogen level in this patient due to failure of the liver to deal with.

The upper outer quadrant of the breast in the present work was the most common site of breast masses (53% of breast masses) then the nipple and areola (26.6%), then the lower outer quadrant (6.6%) and then lower inner quadrant (6.6), and lastly upper inner quadrant (3.3%).

Mann and Russel (1992) reported that the upper outer quadrant represent 60% of breast masses and, nipple 12%, lower outer quadrant 10% and lower inner quadrant 6%.

So the most common site of breast masses and cancer is outer quadrant (proved by mammography).

In the present work, we found that the accuracy of clinical diagnosis was 76.6% sensitivity 93% and specificity 60% while the accuracy of mammography was 89%, sensitivity 87% and specificity 75%.

Young and his associates made a study on 822 women seen in a 6-year period for breast biopsy. The result of their work reported malignant disease was more frequent in lumps proved to be cancerous in 43% of patients on clinical examination.

The accuracy of mammography in their series was 79.5% sensitivity was 89% but its specificity was only 70%.

Mammography and physical examination are complementary procedures (Young et al 1986).

Welberg et al. (1985), made a study on 108 symptomatic women for detection of breast cancer and correlation the accuracy of clinical examination, mammography, cytology, and histopathology. Mammography in their series had 88.2% accuracy.

On the other hand, Egyans et al (1977) studied the accuracy of clinical and



mammography diagnosis of breast cancer on 1003 patients presenting with breast lumps.

They concluded that mammography had an accuracy of 87% while physical examination had only 62% accuracy.

In 1984, Strax stated that neither palpation nor mammography used singly and in combination, can detect 10% of the cancer.

So, it can be concluded that any lady presenting with a breast lump as well as suspicious lumps in male patients must be assessed clinically, soft tissue mammography is necessary in confirming the clinical impression especially as regards the malignant nature of the swelling.

However a biopsy must be carried out for every lady present with a breast lump.

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## دراسة مقترنة في أورام الثدي الاكلينيكي وبالاشعة وبالتحليل الهستوباثولوجي

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أجري البحث علي ستون مريضا (٥٨ سيدة ورجلين) وتم تشخيص أورام الثدي واجري البحث في الفترة من عام ١٩٣٣ حتي ١٩٩٥ وكان يتراوح أعمارهم من ١٧ حتى ٧٠ سنة. وتم تقسيم البحث الي أربع مجموعات :

المجموعة الأولى تشمل ٤٤ مريضى أناث (٧٣,٣%) وكان حجم الورم ٢سم ٢X سم وتم التشخيص بالاشعة.

المجموعة الثانية : وتشمل ٥ مريضى أناث (٨,٣%) وكانوا يعانون من افرازات من حلمة الثدي وتم تشخيص ورم الثدي حول الحلمة بالاشعة.

المجموعة الثالثة : وتشمل ٤ مريضى (٦,٧%) وكانوا يعانون من تقرحات حول الحلمة وتم تشخيص أورام تحت الحلمة (مرض بتجيت).

المجموعة الرابعة : تشمل ٧ مريضى أناث (١١,٧%) وكانوا يعانون من آلام بالثدي (ثلاث مريضى أناث أكبر من ٤٥ سنة) مع وجود عذذ لمفاوية بالابط (٢ مريضى) وتم تشخيص أورام الثدي بالاشعة وكانت ١٤ مريضة تأخذ أقراص منع الحمل وتم وصف الحالات بالاشعة وتحديد حجم الورم ونوعه وأخذ عينات ومقارنة ذلك بالفحص الاكلينيكي.

ودلت النتائج علي أن الفحص الاكلينيكي اذا كان مصحوبا بفحص الثدي بالاشعة مع التحليل الهستوباثولوجي يعطى ذقة عالية في تشخيص أورام الثدي.