Research Paper

Medical Science

Diagnosis of Malignancy of Breast (A Study of 100 Cases)

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ABSTRACT

The incidence of breast cancer is low in rising in India. Breast cancer is the commonest cancer of urban Indian women and the second commonest in the rural women. Owing to the lack of awareness of this disease and in absence of a breast cancer screening program, the majority of breast cancers are diagnosed at a relatively advanced stage. so, triple assessment help in early diagnosis. The recent emphasis on health education and early diagnosis of cancers are expected to bring about the much needed improvement in breast cancer care in India.

INTRODUCTION

Breast cancer is the most common type of cancer in women and the second leading cause of cancer related deaths next to lung cancer. Although the vast majority of breast cancers occur in women, breast cancer does occur in men, however it less than 1% incidence in males. We are studying only female breast cancers in this study. **Cancer**, the name itself comes from Greek and Latin words for a crab, refers to the claw like vessels extending over the surface of an advanced breast cancer. (1)**Rudolf Virchow** has the credit for being the first to demonstrate that cancer is a disease of cells and that the disease progressed as a result of abnormal proliferation. The body is made up of many types of cells. Normally cells grow and divide to produce more cells only when the body needs them. This orderly process helps to keep the body healthy. Sometimes cells keep dividing when new cells are not needed. These cells may form a mass of extra tissues called a growth or tumour.

According to **triple assessment** (2) of the breast cancer diagnosis three studies should be done.

1. Clinical – history and physical examination.
2. Imaging – ultrasound, mammography, CT/MRI.
3. Pathology – FNAC, tru-cut biopsy.

FNAC is a simple, relatively painless and safe procedure with high sensitivity and specificity for diagnosis of breast cancer. In our study we are comparing results of FNAC with histopathological reports and also studying results of ultrasound and mammography as a part of triple assessment.

MATERIALS AND METHODS

We have studied 100 female patients with diagnosed breast cancer in a surgery department of our hospital in a span of 7 years from 2008 to 2014.

Inclusion criteria

-Age between 30-70 years.
- Female having stage 1, stage 2 or stage 3 breast cancer.

Exclusion criteria
- Male patients
- Age < 30 and > 70 years
-Pregnancy
- Prior axillary surgery
- Recurrent lesions

- Prior non-oncological breast surgery
- Previous radiotherapy
- Breast sarcoma
- Distant metastases

All the patients were admitted in our surgical department and surgical treatment was done after confirming the diagnosis. Breast tissue along with tumour and axillary lymph node specimens were sent in laboratory for histopathology.

OBSERVATIONS
According to the characteristics of the patients
Table 1

Tumour location	Number of patient	Percentage
UOQ	46	46%
UIQ	18	18%
LOQ	16	16%
LIQ	6	6%
Central	14	14%

Table 2

Pathology	Number of Patient	Percentage
Invasive ductal carcinoma	86	86%
Lobular	3	3%
Medullary	5	5%
Papillary	3	3%
Mucinous	3	3%

Ultrasound findings are also divided into
1. Malignant – hypo-echoic solid lesion with irregular margins, posterior acoustic shadowing, presence of microcalcifications.
2. Benign – solid lesion with varying echogenisity with well defined margins and with surrounding normal breast parenchyma.
3. Suspicious lesions which require further Ix – showing features of both benign and malignant.

Ultrasound	No. of patient	Percentage
Malignant	58	58%
Suspicious lesion	31	31%
Benign	11	11%

Stage of breast cancer and according management

Stage	No of patient	BCS+AD	MRM	Adjuvant Radiotherapy or Chemotherapy
1	7	5	2	0
2a	65	8	60	0
2b	19	1	18	14
3a	2	0	2	2
3b	4	0	4	4
4	0	0	0	0

DISCUSSION

We have studied 100 female patients admitted in our hospital, diagnosed as breast cancer and managed according to the stage of the disease. According to our study the mean age of patients was 54.47. And the number of patients according to age group was 2 in30- 40, 38 in 41-50, 36 in 51-60 and 24 in 61-70. So this suggests that breast cancer is rare in 30s and increase in incidence after 40 years. Due to general awareness and different screening methods available breast cancers are now diagnosed at early age.(3) Most of the patients had T2 tumour (85%).(5) Most common site of tumour in breast is upper outer quadrant. In our study 46% had tumour in upper outer quadrant, 18% in upper inner quadrant, 16% in lower outer quadrant, 14% in central quadrant, and 6% in lower inner quadrant. In pathology most common type of cancer was invasive ductal carcinoma in 86% of the patients, medullary in 5%, lobular in 3%, mucinous in 3% and papillary in 3% of patients.(6) Out of 79 patients having no clinically palpable lymph nodes, 22 patients showed positive lymph node on histopathology report. So, it suggests that every patient with diagnosed breast cancer with clinically non palpable lymph nodes, at the time of surgery lymph node dissection should be done. Otherwise sentinel lymph node was identified after the injection of isosulfan blue dye or technetium radio-labelled sulphur colloid. If the sentinel node is positive for tumour axillary dissection is carried out and if the sentinel node is negative for tumour no need for axillary dissection. Ultrasound findings showed features of malignant mass in 58 patients, benign mass in 11 patients and suspicious mass in 31 patients.7,8,9 Mammographic findings showed features of malignant mass in 53 patients, benign mass in 3 patients and suspicious mass in 44 patients.7,8,9 FNAC, It is an OPD procedure. Can be done under local anaesthesia. It is done with 1.5 inch, 22-gauge needle with 10 ml of syringe. At present most reliable method for diagnosis. In our study FNAC was done in all 100 patients and its results were compared with post operative histopathology report. Out of 100 patients of breast cancer, FNAC and post operative histo-pathology reports suggest same findings in 94 patients. From the rest of 6 patients, in 2 patients FNAC showed epithelial proliferation with atypia suggest malignancy but cannot distinguish pathological type.

These 2 patients on histopathology reports were found to be medullary and invasive ductal carcinoma. Other 4 patients on FNAC found to be epithelial hyperplasia without atypia which suggest non malignant tumour were found to be invasive ductal carcinoma. Out of these 4 patients, 2 patients were diagnosed after surgical excision of the tumour and other 2 patients were operated with frozen section showed invasive ductal carcinoma. So, with FNAC 96 patients were diagnosed accurately as malignant tumour. 4 patients which showed non malignant on FNAC, were found malignant. So sensitivity of FNAC is 96% and positive predictive value is 100% which was compared with the different other studies listed above.10, 11, 12, 13

CONCLUSION

A definite diagnosis of breast cancer is very important for the surgeon to decide final course of treatment. The nature of breast lump cannot be diagnosed only on clinical examination. To come to a definite diagnosis clinical judgment needs to be supported by specialized investigations like ultrasound, mammography, and FNAC. Ultrasound and mammography showed accurate malignant changes in 58% and 53% respectively. FNAC can detect the malignancy with high sensitivity (96%) and high accuracy (100%). Still there are 4% false negative patients. But when clinical examination, radiological imaging like ultrasound and mammography is combined with FNAC in diagnosing the breast cancer as part of triple assessment, sensitivity, specificity and diagnostic accuracy reaches up to 100%. Thus, triple assessment is gold standard for diagnosing breast cancer.

ABBREVIATIONS

UOQ – upper outer quadrant
UIQ – upper inner quadrant
LOQ – lower outer quadrant
LIQ – lower inner quadrant
BCS – breast conserving surgery
MRM – modified radical mastectomy
AD – axillary dissection
FNAC – fine needle aspiration cytology
IDC – invasive ductal carcinoma
HPE – histo-pathological examination
USG - ultrasonography

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