



A STUDY OF CORE-CUT BIOPSY AND FNAC FINDINGS IN A CLINICALLY PALPABLE BREAST LUMP

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ABSTRACT

Aims And Objectives To find the sensitivity and specificity of FNAC and Core-Cut biopsy. To study the efficacy of FNAC and Core-Cut biopsy with that of Histopathological (gross specimen) study in diagnosing a breast lump. To find limitations of FNAC and Core-Cut biopsy **Materials and Method:** This is Hospital based Interventional study at Tertiary care centre in the department of General Surgery. All patients admitted during the period of 24 months with palpable breast lump coming under the eligibility criteria will be subjected for FNAC and Core-Cut biopsy after obtaining informed consents. Data Entry is done by using MS Excel and Analysis is done by using Suitable Statistical tests. **Results:** Our study of 70 patients, age incidence was ranged from 18 to 70 years. The age incidence for the benign lesions ranged from 18 years to 64 years (Mean age 38.5 years, SD= 12.56 years). The incidence for the malignant lesions ranged from 25 to 70 years (mean age 51.06 years, SD= 10.62 years). Out of total 70 patient, 49 patients had lump in right breast, 21 had lump in left breast. Our study True positive for FNAC was 38(54.28%) True negative was 26 (37.14%) and false positive was 0 and false negative were 6 (0.08%), which lead to the interpretation of sensitivity of 86 % for FNAC and specificity of 81.12% for FNAC. Our study True positive for Core-Cut biopsy was 42(60%) True negative was 26(38%) and False positive was 0(0%) and false negative was 02(2.85%), which lead to the interpretation of sensitivity of 95% for Core-Cut biopsy and specificity of 92.85 % for Core-cut biopsy. For Core-Cut biopsy in our study positive and negative predictive value was found to be 100% and 59.09% respectively **Conclusion:** As Both Sensitivity and Specify of Core-Cut biopsy is far superior than FNAC, and more number of False Negative reports in FNAC, where we can miss the Malignant breast Lump, we conclude that, Core-Cut Biopsy is far superior to FNAC in the diagnostic approach of breast cancer and, especially in cases of doubt, it is preferable to proceed directly with Core Cut biopsy.

KEYWORDS : breast, core cut biopsy, FNAC, breast reconstruction

INTRODUCTION

Breast Cancer is by far most the most frequent cancer among women, with estimated 1.67 million new cases diagnosed in 2012 (about 25 percent of all cancers). It is now the most common cancer both in developed (7,94,000 cases) and developing regions (8,83,000 cases). Incidence rates vary from 27 per lac women in eastern Africa to 98 per lac women in Western Europe. The range of mortality rate is similar, approximately 6-20 per lac, because of the more favourable survival of breast cancer cases in developed countries. As a result, breast cancer ranks 5th cause of death from cancer, but it is still the most frequent cause of death in women in developing region

It is estimated that during the year 2012, about 1,44,937 new cases of breast occurred in India, which accounts for 27 percent of all malignant cases (an incident rate of 25.8 per ac population). About 70,218 women died of this cancer (mortality of 21.5 percent of all cancer cases), mortality rate being 12.7 per lac population, ranking number one killer in women

The most common clinical presentation of breast disease is palpable lump in breast; although few breast diseases can present as inflammatory lesion, nipple secretion or incidental imaging abnormalities. Even though most breast lumps are benign, many of these patients are in anxiety of malignancy, until they had specialist assessment, and the necessary imaging or other investigations and eventual reassurance

AIMS AND OBJECTIVES

1. To find the sensitivity and specificity of FNAC and Core-Cut biopsy.
2. To study the efficacy of FNAC and Core-Cut biopsy with that of Histopathological (gross specimen) study in diagnosing a breast lump.
3. To find limitations of FNAC and Core-Cut biopsy

MATERIALS AND METHODS

All patients admitted under Surgery department Of Smt.Kashibai Navale Medical college and hospital with palpable breast lump coming under the eligibility criteria mentioned below will be subjected for FNAC and Core-Cut biopsy after obtaining informed consents. FNAC will be performed by the pathologist while Core-Cut biopsy will be performed by experienced surgeon.

The Core-cut biopsy is performed by using a Core-Cut gun with an 16-gauge needle. After manual localization and immobilization of the lesion, under complete aseptic technique a 2% lignocaine infiltrating anesthetic is administered, and the skin incision performed. A biopsy specimen is obtained by means of four successive insertions with different angulations of the needle into the core of the lesion. The quantity and quality of the material obtained is judged after immediate immersion of the specimen in fixative, and then specimen is sent to histopathology department

Samples will be sent for Histopathological examination and depending on the results further treatment will be planned (excision biopsy or mastectomy) and then the final specimen will be sent for histopathological examination.

Duration of study: 24 months

Sample Size-

Consecutive patients having breast lump admitted under surgery department.

Inclusion criteria:

1. All female patients above the age of 18 years with a clinically palpable breast lump

Exclusion criteria:

1. Patients below 18 years of age.

2. Recurrent breast lump of previously operated case for confirmed malignancy
3. Patients with acute and tender breast lump like breast abscess
4. Patients non-compliant for FNAC or Core-Cut biopsy.
5. Patient with breast lump undergoing palliative chemotherapy for diagnosed case of metastatic Ca.Breast

Ethical considerations -

Written informed consent will be obtained from each participant and they will be verbally explained about the study in their native language.

Patients' participation in the study is voluntary and patient can withdraw from the study at any juncture of the study.

Data collection

In outpatient department a detailed history and thorough physical examination of the patient having palpable breast lump was carried out and entered in the proforma. The patient was informed about the procedure and informed consent was obtained from the patient before subjecting to fine needle aspiration cytology and Core-Cut biopsy of the breast lump.

OBSERVATIONS AND RESULTS

Table 6: The result of the fine needle aspiration cytology

Diagnosis	Benign	Malignant	total
Frequency	32	38	70

Table 7 : The result of the Core-Cut Biopsy

Diagnosis	Benign	Malignant	Total
Frequency	28	42	70

Table 8 : Histopathological Result Of Operative Specimen

Diagnosis	Benign	Malignant	Total
frequency	26	44	70

Observations of FNAC

Out of 26 benign cases FNAC reported 32 benign cases
 Out of 44 malignant cases FNAC Reported 38 malignant cases

Test result	Malignant	Benign	Total
Positive	38 (True positive)	0 (False positive)	38
Negative	6 (False negative)	26 (True negative)	32
Total	44	26	70

Sensitivity -- 86%
 Specificity -- 81.12%
 Positive predictive value 100%
 Negative predictive value 59.09%

Observations of Core-Cut Biopsy

26 cases were confirmed as benign on Core-Cut biopsy.
 Out of 44 malignant cases, Core-Cut confirms 42, out of these 2 were false Negative.

Core cut	Disease (malignant)	Not disease (benign)	Total
Positive	42 (True positive)	0 (False positive)	42
Negative	2 (False negative)	26 (True negative)	28
Total	44	26	70

Sensitivity --95%
 Specificity --92.85%
 Positive predictive value 100%
 Negative predictive value 59.09%

DISCUSSION

A lump in the breast is a common complaint presenting in the surgical out-patient department of all major hospitals, with anxiety regarding a possible malignancy being extremely common. Accurate diagnosis of cancer has been a diagnostic dilemma since long. A differential diagnosis of the benign, traumatic and malignant lesions is very essential in early

stages of the disease. It is extremely important that unnecessary surgeries or invasive treatment for benign diseases are minimized, and malignant lesions are managed aggressively in early stages.

In present study which was conducted on 70 female patients who presented with clinically palpable Breast lump.

Our study of 70 patients, age incidence was ranged from 18 to 70 years (mean age 46.7 years. The age incidence for the benign lesions ranged from 18 years to 64 years (mean age 38.5 years, SD= 12.56 years). The incidence for the malignant lesions ranged from 25 to 70 years (mean age 51.06 years, SD= 10.62 years). The most common age group for benign lesions was between 35 to 44 years and for the malignant lesion was 45 to 54 years.

In our study Out of total 70 patient, 49 patients had lump in right breast, 21 had lump in left breast. Malignant lesions were found more common in the right breast as compared to left one. The size of the breast lump ranged from 2 to 10 cms. The benign lesions ranged between 2 to 6 cms .68.57% of the benign lesions were less than 6 cms. Malignant lesions were ranged between 5 to 10 cms and among them 31.42% measured 6 to 10 cms in its greatest diameter.

8 cases out of 26 total benign cases had breast lump in Central quadrant of breast. Malignant lump was found out of total 44 cases, 16 cases had breast lump in upper outer quadrant.

The commonest benign pathology found in our patients was fibroadenoma almost 90% of all benign diagnosis. And the commonest malignant diagnosis was infiltrative ductal carcinoma 85% of all malignant conditions. FNAC & Core-Cut Biopsy

In our study True positive for FNAC was 38(54.28%) True negative was 26 (37.14%) and false positive was 0 and false negative were 6 (0.08%), which lead to the interpretation of sensitivity of 86 % for FNAC and specificity of 81.12% for FNAC. For FNAC in our study positive and negative predictive value was found to be 100% and 59.09% respectively.

Our study True positive for Core-Cut biopsy was 42(60%) True negative was 26(38%) and False positive was 0(0%) and false negative was 02(2.85%), which lead to the interpretation of sensitivity of 95% for Core-cut biopsy and specificity of 92.85 % for Core-cut biopsy. For Core-Cut biopsy in our study positive and negative predictive value was found to be 100% and 59.09% respective

CONCLUSION

Based on Our Study, As Both Sensitivity and Specificity of Core-Cut biopsy is far superior than FNAC, and more number of False Negative reports in FNAC, where we can miss the Malignant breast Lump ,we conclude that, Core-Cut Biopsy is far superior to FNAC in the diagnostic approach of breast cancer and, especially in cases of doubt, it is preferable to proceed directly with Core Cut biopsy

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