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The Role of FNAC in Diagnosis of Breast Disease at Different Ages - 208 Cases

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Summary:

All breast lesions are not malignant, and all the benign lesions do not progress to cancer; however the accuracy of diagnosis can be increased by a combination of preoperative tests. About 30% of women suffer from breast disease in their lifetime. The main objectives are to explore the role of FNAC in diagnosis of breast disease at different ages. Fine needle aspiration cytology (FNAC) has become a critical component in the investigation of palpable breast masses.

Total 208 cases included in this study at Comilla. The data was formulated and analyzed by SPSS-12. 79(37.98%) cases were at the age of 21-30 years and next one was 11-20 years which was 48(23.07%). Among them 40(19.23%) cases were malignant and 168(80.77%) cases were benign in nature. The incidence of malignancy was increased with relation to age. As the age is more chance of malignancy is more. In benign types fibroadenoma was the common disease then the duct cell carcinoma, fibrocystic change, suppurative inflammation respectively. The findings were 43.75%, 19.23%, 18.27% and 8.65%.

In conclusion, fine needle aspiration cytology, for diagnosis of breast lump can reduce the number of open biopsy and surgery.

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Introduction:

Breast, a sign of womenhood and fertility has been a subject for clinicians from the time medicine is being practiced. Breast diseases are the most common ailment from which women suffer throughout the world. About 30% of women suffer from breast disease in their lifetime[1].

The palpable breast lesion is a common problem at the surgical outpatient clinics. The aim in management is to exclude malignant disease and in this aspect, fine needle aspiration cytology (FNAC) plays an important role [2].

Fine needle aspiration cytology is an excellent safe and cost effective diagnostic procedure. One can get on site immediate report with minimal cost using inexpensive equipment and a simple technique. The most significant advantage of FNAC is the high degree of accuracy, rapid results, and a less invasive procedure than a tissue biopsy. FNAC of the breast can reduce the number of open breast biopsies.[3-6]

The triple diagnostic method (consisting of clinical evaluation, mammography and fine needle aspiration cytology) gives a precise diagnosis and reduces the risk of a missed diagnosis of breast cancer to <1%[7].The aim of this study is to find out the common causes of breast lump at different ages and offer treatment.

Materials and Methods:

This study was carried out at Comilla in different clinics and hospitals. It was undertaken from 01.01.2010 to 31.12.2010.All breast lump of female patient were included in this study. Data was collected randomly as per inclusion and exclusion criteria. The age of the patient and FNAC report were recorded for analysis of data. Data was analyzed by manually and by SPSS-12(SPSS= Statistical Programmed for Scientific Study). The results were plotted in tables, charts and graphs.

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Inclusion criteria:

1. All patients presented with breast lump.
2. All female patients of at any age.

Exclusion criteria:

1. Male patient with breast disease.
2. Lump negative patients.
3. Patient with histopathological diagnosis of malignancy.

Results:

Table-I

Age distribution

Age of the patient	Number of cases	Percentages
11-20	48	23.07%
21-30	79	37.98%
31-40	39	18.75%
41-50	27	12.98%
51-60	11	5.29%
61-70	03	1.44%
71-80	00	00
81-90	01	0.48%
Total	208	100%

The total number of cases was 208. Most of the patients were in the age group 11-50 years. Among them 79 cases were present in 20-30 years age group. This data consists of both benign and malignant disease. Only one case was at 81-90 years.

Table-II

Disease type

	Number of cases	Percentages
Benign	168	80.77%
Malignant	40	19.23%
Total	208	100%

In Table II shows the benign and malignant diseases of the breast. Most of the cases were benign, which was 168 cases. But malignant disease was 40 cases only.

Table-III

Comparison of benign and malignant disease of different age (cross table test).

Age	Benign	Malignant	Total
11-20	47(97.92%)	01(2.08%)	48
21-30	75(94.94%)	04(5.06%)	79
31-40	29(74.36%)	10(25.64%)	39
41-50	14(51.85%)	13(48.15%)	27
51-60	03(27.27%)	08(72.73%)	11
61-70	0	03(100%)	03
81-90	0	01(100%)	01
Total	168	40	208

In correlation of benign and malignant disease with age showed that the number of malignant disease was increased with increasing age. Benign disease of breast was more in younger ones. Maximum benign disease were in the age of 21-30 years which was about 75. Older at the age of 81-90 years single malignant disease was present.

Table-IV

Types of disease

Disease	Number of cases	Percentages
Fibroadenoma	91	43.75%
Fibrocystic change	38	18.27%
Duct cell carcinoma	40	19.23%
Suppurative Inflammation	18	8.65%
Granulomatous mastitis	09	4.32%
Galactocele	09	4.32%
Lipoma	02	0.96%
Accessory breast tissue	01	0.48%
Total	208	100%

The commonest disease of breast was fibroadenoma which was about 91 cases. Duct cell carcinoma was the malignant disease, it was about 40 cases and 38cases had fibrocystic change.

Table-V

Test statistics

	Age	Disease type	Disease
Chi-square	159.702	78.769	299.894
df	06	01	8
Asymp. Significance	.000	.000	.000

Discussion:

Total 208 patients were included in this study. All patients were female and FNAC done in all cases and reports were interpretated in a tabulated form.

Age distribution of the disease was 48, 79, 39, 27, 11, 03 and 01 cases at different age distribution. The breast disease was more common between the age of 21-30 years and was commoner among 11-20 years age group. Another study showed that the distribution was 23, 76, 166, 86, 53, 16 and 5 cases respectively. This disparity due to more number of cases in this study.[8]

Among the 208 cases 168(80.77%) cases were benign and 40(19.23%) cases were malignant. The benign cases were more than the malignant cases.Tiwari M. found only 6.6% cases were malignant and others were benign in out of 91 cases.[9]Usually the percentage of benign is 80% and that of malignant was 20%[13].

In comparison of malignancy at different age showed that the number of malignancy with advancement of age of the patients. Here 01(one) case was found at the age of 11-20 years but at 41-50 years 13 cases were malignant out of 27 cases. At the age of 61-70 years almost 100% cases were malignant. Carcinoma of the breast is extremely rare below the age of 20 years about, thereafter; the incidence steadily rises so that by the age of 90 years nearly 20% of women are affected [10].

In type of disease, maximum disease was benign in nature. Among them fibroadenoma was the most common which was 91(43.75%) and it correlates with other studies [8.9].Malignant breast lump present in 40(19.23%) of cases. In different studies it was 6.6% [9] and a recent study in Pakistan showed breast cancer only in 6.9% [11]. A recent study by Yousuf [12] in Rawalpindi also observed 21% cancer in their study. Next suppurative inflammation and galactocele present in 18(8.65%) and 09(4.32%). Tiwari M. found breast abscess in 6.6% and galactocele in 5.5% of cases [9]. Tuberculous mastitis was present in 4.32% of cases and showed in breast tuberculosis in 2.3% of cases [8].

Conclusion:

This prospective study was done at Comilla district with sample size was 208. FNAC was done in all female patients having breast lump and male patients were excluded from the study.

The commonest age of breast disease was 21-30 years which was 79(39.98%) of cases. The next commoner age group was 11-20 years, it was about 48(23.07%) and 31-40 years 39 (18.75%). 80% cases were suffering from benign disease and rest of the patient were malignant in nature.

The comparison of disease at different ages showed that the percentages of malignancy increases with the increasing of age. At the age of 11-20 years most of the cases were benign and only one case was malignant but at the age of 51-60 years 100% of cases become malignant.

The type of diseases was variable. Most common was fibroadenoma 43.75 %(91) and the next one was fibrocystic change which was 38(18.27%) cases. Duct cell carcinoma was found in 40(19.23%) cases and tuberculosis in breast disease was 09 (4.32%) of cases.

Small sample size does not depict the picture of whole nation. A large scale study in required for further evaluation of disease.

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