



ORIGINAL RESEARCH PAPER

Surgery

A CLINICOPATHOLOGICAL STUDY ON BREAST LUMPS IN PATIENTS IN SILCHAR MEDICAL COLLEGE AND HOSPITAL

KEY WORDS: pelvis, sexual dimorphism, sciatic tubercle.

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ABSTRACT

Breast is a glandular organ which often give rise to lumps which is a source of great anxiety amongst women who have it .The purpose of this study is to determine the prevalence of breast lumps in women presenting at Silchar Medical College and Hospital. To study the clinical staging of breast lump if it turns out to be malignant in FNAC. To study the correlation between clinical diagnosis, FNAC and specimen biopsy in operable cases.

Materials and methods: The current study comprises of 98 cases of women with breast lumps who presented in the department of Surgery, Silchar Medical College and Hospital during the period of one year. A complete clinical evaluation along with Fine needle aspiration cytology (FNAC) was done . Suspicious cases were confirmed by histopathology examination.

Results: In our study, majority of the cases were in the age group 15-24 years. Duration of the lump was most commonly seen at 6 to 12 months. Location of the lumps were seen most commonly in the right upper–outer quadrant comprising of 60% . Consistency was firm in 65.3% and hard in 29.5%, the remainder had cystic consistency .Clinical staging of the 26 patients with breast lumps with associated palpable axillary lymphadenopathy and suspicious skin changes was done and 20 patients presented with stage II tumor. Patients in the study were subjected to FNAC where 54% were found to have fibroadenoma. Histopathological examination was done in the entire 70 specimen who are operated upon. Majority of the patients had fibroadenoma 48.5% followed by intraductal carcinoma 32.8%.

Conclusion: Benign neoplasms are more frequent in younger females whereas malignant changes are seen fairly common in older age group.

Introduction:

Breast is an important organ and it adds to the physical attire of a woman. It is not only a symbol of beauty of a female human being, it also serves the invaluable function of nourishing a young life to maturity till it is capable to endure the harsh physical environment. It is an organ which is subject to change as a girl grows into a woman all in perfect tune with the hormonal rhythm. It thus signals her bodily development through puberty to a mature woman fully capable of mothering a child. Being a glandular organ which is subjected to hormonal leverage it presents in females with various structures giving rise to different types of lesion and lumps .This is why there arises many diseases of the breast which is due to an inadvertent flaw in the basic mechanism which finely tunes this organ to the necessary changes.

Breast diseases are showing a rising trend and as a result, there is considerable interest in the clinicopathologic studies of breast mass in various populations. Results from many published studies reveal that breast cancer is the leading female malignancy in the world. It is against this background that the usual management of a palpable breast mass is based on the assumption that the mass is to be considered cancerous until proven otherwise.

Aims and objectives:

To study the age-related prevalence of breast diseases presenting as breast lumps at Silchar Medical College and Hospital.

To study the clinical staging of breast lump if it turns out to be malignant in FNAC.

To study the correlation between clinical diagnosis, FNAC and specimen biopsy in operable cases.

Materials and methods:

Type of study: Prospective descriptive observational study.

Case: The study was done in 98 women who presented with breast lumps to Silchar Medical College and Hospital in the department of Surgery, SMCH for a period of 12 months from July 2016 to June 2017.

Inclusion criteria:

Female patients presenting with breast lumps in the Surgery department of Silchar Medical College.

Exclusion criteria:

All male patients with breast lumps.
Patients presenting with superficial skin lesions such as sebaceous cyst and skin papilloma
Patients less than 12 years of age presenting with breast lumps.

Patients refusing investigation and clinical examination.

All patients presented to the surgical OPD with breast lump as the chief complaint. After a thorough history taking and clinical examination a clinical diagnosis is made and patient is subjected to FNAC on the day of presentation. FNAC is cheap, easily available and easy to perform with good patient compliance. Mammography is not done as we did not have this facility in our institution at the time of the study. Ultrasonography of the breast lump is done. In all the operated cases tissue specimen are sent for histopathology. The detail clinical history of the patients under study, their entire case work-up are recorded in a pre- formed proforma and kept for reference. Follow up of the patients is done in all the breast lumps; in any benign lumps managed conservatively for any suspicious transformation and for all operated breast carcinoma cases for recurrence and adjuvant therapies.

Results and Observation:

AGE DISTRIBUTION:

Below is the table showing the age group of presentation of breast lumps in our study.

Table A: age distribution of the patients.

Age –group	No. of cases	Percentage
15-24	31	31.6
25-34	27	27.5
35-44	20	20.4
45-54	13	13.2
55-64	4	4
65-75	3	3

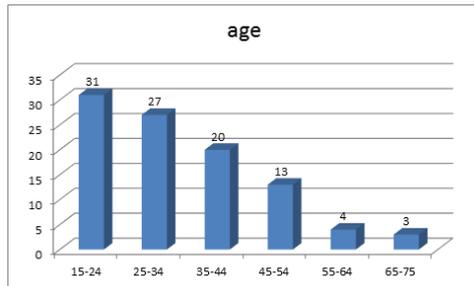


Diagram A: age distribution of the patients. In our study, the lowest age of presentation is 15 years and the highest age is 75 years. We see that the majority of cases belong to the age group 15-24 years with a total of 31(31.6%) cases.

DURATION OF LUMP:

The duration of lump varies across the table. It is seen that the maximum number of patients with breast lump presented at 6-12 months of duration followed by 1-6 months duration. Only 1 patient had duration of lump for more than 5 years.

Table B: duration of the lumps

Duration (months)	Nos. of patients	Percentage (%)
1-6	28	28.5
7-12	44	44.8
19-24	7	7.1
31-36	4	4
43-48	5	5.1
55-60	9	9.1
67-72	1	1

SIZE OF THE LUMPS:

The following table show the diameter of the breast lumps in all the women in cms. Most women presented at size of 2-3cm of diameter.

SIDE OF THE BREAST:

The following table shows the side of breast which is affected with the lump. Right side is affected in majority 58% of the cases than the left. A few amounting to 4% had bilateral breast lumps.

LOCATION OF THE LUMP:

The location of lumps in the breast varies along the sample of women examined. It is seen that breast lumps are present in upper-outer quadrant in majority of the cases comprising of 60.2 % and followed by lower outer quadrant comprising of 23.4% .

Table C: location of the lump

Location	Total no. of patients	Percentage (%)
Upper outer	59	60.2
Upper inner	7	7.1
Lower outer	23	23.4
Lower inner	4	4
Multiple	2	2
Central	3	3

MOBILITY :

Of all the women with breast lumps, 63 of the women had mobile breast lumps and the remaining 35 others had fixed lumps.

CONSISTENCY:

The different breast lumps presented with different consistency. Of all the breast lump palpated , majority are firm 65.3%, followed by hard lumps which comprises of 29.5%.

Table D: consistency of the

Consistency	Nos. of patients	Percentage
Firm	64	65.3
Hard	29	29.5
Cystic	4	4
Soft	1	1

NIPPLE DISCHARGE:

Breast lumps is associated with discharge from the nipple in only 1 patient.

ASSOCIATION OF PAIN :

Of the 98 patients with breast lumps, 10 patients had associated pain as a complaint. Most of the patients who complained of pain had fibrocystic disease or mastitis .

SKIN CHANGES:

Skin changes is seen in 18 of the cases as compared to the remaining other 80 who had no skin changes.

ASSOCIATED AXILLARY NODE:

Axillary node is associated with 25 women with breast lumps and the remaining 73 had no palpable axillary lymph nodes.

Table E: associated axillary node

Axillary lymph node;	Nos. of patients	Percentage(%)
Present	25	25.5
Absent	73	74.4

CLINICAL STAGING OF MALIGNANT LUMPS:

In all the 26 suspected cases of carcinoma breast, clinical staging was done at presentation. 20 cases presented with stage II tumor followed by 6 cases who presented with stage III. There was no cases the came in either stage I or stage IV

Table F: clinical staging of breast carcinoma

Stage	Nos.	Percentage(%)
stage I	0	-
stage II	20	76.9
stage III	6	23.0
stage IV	0	-

FNAC FINDINGS:

FNAC of the breast lumps are performed which recognizes fibroadenoma(53) as the most common cause of breast lump followed by intraductal carcinoma(26). Other findings include fibrocystic disease(9), mastitis(7), phylloides tumor(2) and ductal papilloma(1).

Table G: FNAC findings

FNAC findings	Nos of patients	Percentage(%)
Fibroadenoma	53	54
Fibrocystic disease	9	9.1
Intraductal carcinoma	26	26.5
Mastitis	7	7.1
Phylloides tumor	2	2
Ductal papilloma	1	1

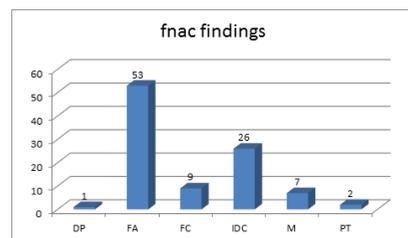


Diagram G: FNAC findings

USG CORRELATION:

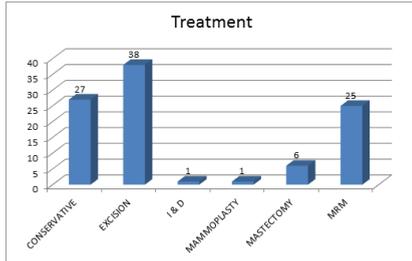
USG was done in all the patients of breast lumps with the findings of FNAC. Of all the 98 patients , findings on USG of 87 patients correlated with the findings of FNAC.

TREATMENT OPTIONS:

Different treatment options are employed for the different types of breast lumps. Modified Radical Mastectomy was done in 25(25.5%) of the patients, Excision was done in 38(38.7%) of the cases , 27(27.5%) of them were treated conservatively . Simple mastectomy was done in 6 (6.6%). Incision and drainage ,

mammoplasty was done in one each of the remaining 2 patients.
Table H: treatment done

Treatment options	Nos of patients	Percentage (%)
MRM	25	25.5
Excision	38	38.7
Conservative	27	27.5
I & D	1	1
Mammoplasty	1	1
Simple mastectomy	6	6.6



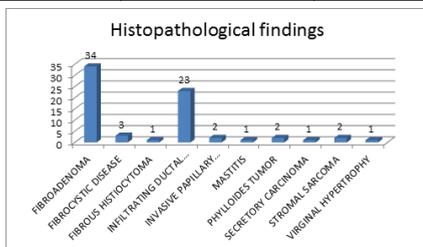
Daigram H: treatment done

HISTOPATHOLOGY CORRELATION:

Histopathology correlation was done in all the 70 patients who are operated upon or where lump is excised . Majority of the patients had fibroadenoma 34 (48.5%) similar to the findings in FNAC, which is followed by intraductal carcinoma 23 (32.8%),mastitis 1 (1.4%), fibrocystic disease 3 (6.1%) ,followed by Phylloides tumor 2 (2.8%), papillary carcinoma 2 (2.8%), stromal sarcoma 2 (2.8%), ,virginal hypertrophy 1 (1.4%),breast abscess 1 (1.4%), secretory carcinoma 1 (1.4%).

Table I: histopathology correlation

Histopathology	Nos. of patients	Percentage(%)
Fibroadenoma	34	48.5
Intraductal carcinoma	23	32.8
Fibrocystic disease	3	4.2
Mastitis	1	1.4
Secretory carcinoma	1	1.4
Papillary carcinoma	2	2.8
Stromal sarcoma	2	2.8
Phylloides tumor	2	2.8
Virginal hypertrophy	1	1.4



Daigram I: histopatholgy correlation

Discussion:

In the present study, it is seen that, presentation of breast lumps is largest in the age group 15-24 years of age consisting of 31.6% of the total followed by the age group 25-34 years of age amounting to 27.5%. This finding is in concordance with the previous study by G.C. Raju et al where maximum age of presentation is between 16 and 25 years. Similarly Hafiz Muhamad et al in his study found out that the mean age of presentation of breast lumps is 25years. In another study by Sheela N.Kulkarni et al found out that the most common age group affected was 11-30 years of age.

Duration of the breast lump in the current study is maximum of 7-12 months comprising of 44(44.8%) falling within this time frame. The main reason for this delay or long duration of symptoms may be due to less awareness , illiteracy and lack of good screening programmes .

In the present study, left breast is more affected with a lump 57(58.1%) than right 37(37.7%), the remainder few had bilateral presentation4 (4%). No associated risk factors are seen depending on the side of the breast. Kumar 's study showed 125 cases of right breast lump out of 243 woemn with breast lump. Similar findings was seen in the study in Rathii's study 49.18% left breast and 44.26 right breast lump and also in U. Murali 's study .

In the current study, lump is located in the upper-outer quadrant in 59(60.2%) , followed by lower outer quadrant in 23.4%. Breast lump due to breast carcinoma are more common in the upper and outer quadrant due to more breast tissue in this quadrant. Our findings are similar with this observation . Additionally our findings are in con cordance with the findings Sheela N. Kulkarni et al(66.33% in upper-outer quadrant) and U. Murali et al (53.6% in upper-outer quadrant) . In the current study,the size of the lumps ranged from 2-11 cm and the lumps on presentation were maximum in the size range of 2-3cm of diameter; 53 (54.2%)followed by size range of 4-5cm of diameter;27(27.5%). Out of the 53 lumps which presented with a size of 2-3cm in diameter,52 are benign and only 1 is malignant. 44 of the 52 benign lumps were fibroadenoma constituting the majority . This finding is similar to the work of Rathii et al who also found that the majority of size were less than 3cm in diameter of which 94.8% were benign. U. Murali et al in their study found that half 61 of the 101 lumps under study were less than 2cm.

In the present study, of all the women with breast lumps, 63(64.2%) of them were mobile and the rest 35(35.7%)where the lumps are fixed to the surrounding tissue. This may be attributed to the finding that most of the lumps are benign with little propensity to infiltrate the surrounding structure. In these 63 lumps , 47 are fibroadenoma, 10 are fibrocystic disease followed by other benign pathology.

In the current study on clinical examination of the breast lumps, the different lumps had variable consistency. 64(65.3%)had firm consistency and 29 (29.5%) had hard consistency. The greater numbers of breast lumps with firm consistency may be due to the larger number of benign breast lumps which is followed by hard consistency mostly due to malignant changes resulting from tumor desmoplasia.

Nipple discharge is an uncommon but alarming symptom, especially if the discharge is blood stained. Of the total 98 patients in our study surprisingly only 1 patient had nipple discharge. Of the 98 patients with breast lumps, there was associated pain in 10 of the patients. Most of the patients with pain are either due to inflammatory cause or with fibrocystic disease which typically related to the menstrual cycle. Pain is associated with fibrocystic disease of the breast .

Axillary node association was seen in 25 (25.5%) women with breast lumps. Other 73 (74.4%) had no palpable axillary lymph nodes. Axillary lymph node was palpable in 23 cases of intraductal carcinoma and 2cases of invasive papillary carcinoma. Palpable lymph node suggest lymphovascular invasion which in itself carries a worse prognosis. This may be due to shortcoming in the early detection and screening programme in our population of study. Of these patients 20 of them had fixed lymph node while other 5 had mobile lymph nodes. There is definite correlation between lymph nodal involvement and the prognosis which will help guide appropriate treatment decisions.

In our study, patient is subjected to FNAC on the day of presentation. The findings of the FNAC is correlated clinically as well as histopathologically. In the current findings, fibroadenoma tops the list with53(54%) of the breast lumps, followed by intraductal carcinoma 26(26.5%), fibrocystic disease 9(9.1%), mastitis 7(7.1%), phylloides tumor(2%) and ductal papilloma1(1%).G C. Raju et al in his finding showed that fibroadenoma is the most frequent diagnosis of the breast lump, followed by fibroadenosis. Study by Hafiz et al on 254 breast lesions showed that benign breast diseases are more common and out of them fibroadenoma is the most common. Rathii et al in their

study of 128 cases found that 82.79 % of the breast lumps are benign and 36.1% of them are fibroadenoma constituting the majority.

Similar finding was also seen by Savita Bharat Jain and colleagues whose study on 100 patients showed benign in 74 cases and , fibroadenoma as the largest cause of breast lumps. The findings in our study is a similar to Ugwu-Olisa et al who had a majority (56.3%) of the patients with benign lumps; fibroadenoma being the commonest. The second majority was held by intra ductal carcinoma(32.8%).

In all the 26 cases of carcinoma breast, clinical staging was done at presentation. 20 cases presented with stage II tumor followed by 6 cases who presented with stage III. There was no cases that came in either stage I or stage IV .The figures in the present study are comparable with statistics quoted by Bhatnagar et al whose study had 60% of the patient of carcinoma breast attended with either stage II or stage III and similarly in Sadhu naga et al where 69.9% presented either in stage II or stage III .

USG correlation was done in all the patients of the present study. Findings of 87 patients (88.77%) correlated similar findings of FNAC meaning that the accuracy of USG-breast in our study was 87.7% . The overall accuracy of the breast lesion ranges from68-96% . The study by Gonzaga et al showed the diagnostic accuracy of 100% for cystic mass while it is 75% for fibroadenoma . This finding is comparable with our result.

Of the 47 cases of fibroadenomas, 38 were treated by excision. Remaining nine fibroadenomas were treated conservatively . Conservative management was employed largely for fibrocystic disease and associated mastalgia. Modified radical mastectomy was done in 25 patients for intraductal carcinoma with axillary lymphadenopathy. Simple mastectomy was done for Phylloides tumor. Incision and drainage was done for one breast abscess and reduction mammoplasty was done for the one case of virginal hypertrophy of the breast.All the patients are followed up and observed for any recurrences.

Histopathology was done in all the patients (70) operated upon and findings compared with the previous studies done. In the current study majority of the patients had fibroadenoma accounting to 34(48.5%), this is followed by intraductal carcinoma 23 (32.8%) and mastitis 1(1.4%) phylloides tumor 2(2.28%), stromal sarcoma2(2.28%), papillary carcinoma 2 (2.28%), secretory carcinoma 1(1.4%).

On histopathological examination our study shows 100 consistency in benign lesions like fibroadenoma , fibrocystic diseases and 50 % consistence in phylloides tumour. 100% consistence was also seen in intraductal carcinoma and 50% consistency for invasive papillary carcinoma. This manner of consistency was also reported in the study by Vissa Santhi et al. where they analysed 100 patients with breast lumps. Sheela N kulkarni et al in their study found majority of the breast lumps to be benign of which fibroadenoma is the highest and intraductal carcinoma the commonest representing the malignant lumps.

Summary:

In our study, majority of the cases were in the age group 15-24 years..Duration of the lump was most commonly seen at 6 to 12 months.Size of the lumps was seen of 2-3cm in diameter in majority of the patients. Location of the lumps were seen most commonly in the right upper-outer quadrant .64% of the breast lumps were mobile. Consistency was firm in 65.3% and hard in 29.5%.Pain was associated in only 10 of the 98 patients with breast lump, most of which are due to inflammation or mastalgia.Associated palpable axillary lymph node was found in 25 of the 98 patients.Clinical staging of the 26 patients with breast lumps with associated palpable axillary lymphadenopathy and suspicious skin changes was done and 20 patients presented with stage II tumor. Patients in the study were subjected to FNAC where 54% were found to have fibroadenoma, 26.5 % were

intraductal carcinoma and others. Ultrasonography of the breast was done which correlated in 88.77% of the diagnosis by FNAC. Of the different treatment that was done simple excision was done in 38.7% and 27.5% were treated conservatively followed by 25.5% which are treated by MRM. Histopathological examination was done in the entire 70 specimen who are operated upon. Majority of the patients had fibroadenoma 34(48.5%) and followed by intraductal carcinoma 23 (32.8%).

Conclusion:

Thus from our study, we see that breast lumps are seen commonly in young adults ,a large quantity of which are fibroadenoma. Breast carcinoma also is not less commonly manifested as lump presenting a bit later in life as early breast cancer. Timely screening and intervention can go a long way in preventing its worst outcome.

Photographs:

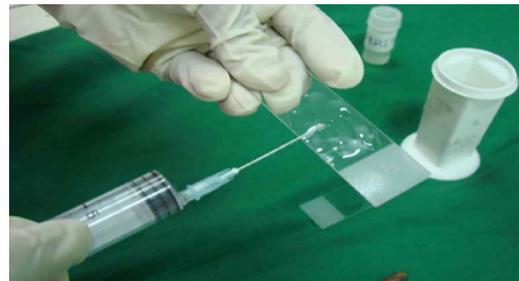


Photo no.1:FNAC preparation of slide



Photo no.2: excision of the fibroadenoma



Photo no.3: excised specimen of fibroadenoma



Photo no.4: MRM incision being made



Photo no.5: cut specimen after MRM

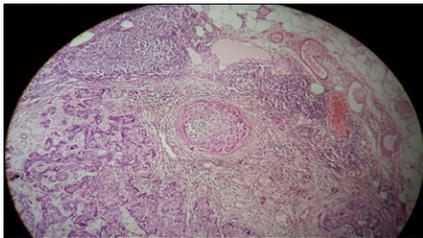


Photo no.8: histopathological slide of infiltrating duct carcinoma

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