



CLINICOPATHOLOGICAL PROFILE OF BREAST LESIONS AT TERTIARY CARE CENTRE.

Pathology

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ABSTRACT

Background: Breast tissue is a modified sweat gland. Breast lesions present with variety of pathological lesions, ranging from inflammatory, non-inflammatory, non-neoplastic and neoplastic lesions. Breast carcinoma is multifaceted disease comprised of distinct biological subtypes spectrum of clinicopathological, molecular features and different therapeutic and prognostic implications. The present study was designed to evaluate the frequency, age, gender and histopathological features of breast lesions in a tertiary care hospital.

Material and Method: The study was conducted in department of pathology, Index medical college hospital & Research centre, Indore. We retrieved breast specimen received in histopathology department over a period of 24 months from June 2018 to June 2020. A total of 106 cases of breast lesions were included in the study.

Results: Out of a total of 106 cases of breast lesions, most common lesions were benign 56 (52.83%) with mean age 30.15 years, followed by malignant 50 (47.16%) with mean age 48.16 years. The overall mean age of patients was 40.46 years, with a wide age of 11–88 years. Overall the most commonly reported lesion was fibroadenoma 35 (33.01%) cases, followed by infiltrating duct carcinoma 50 (47.16%) cases, mastitis 3 (2.8%) cases, Galactocoele 3 (2.8%) cases. The maximum cases of malignancy were seen in age group more than 40 years of age of life. Most common malignant lesion was infiltrating duct carcinoma.

Conclusion: The breast lesions pattern revealed by the present study provides valuable information regarding clinicopathological profile of breast lesions.

KEYWORDS

Breast lesion, Inflammatory, Benign lesion and Malignancy.

I. INTRODUCTION

Breast tissue is a modified sweat gland. Breast lesions present with variety of pathological lesions, ranging from inflammatory, non-inflammatory, non-neoplastic and neoplastic lesions. Approximately 200,000 cases of breast lesions were diagnosed annually.⁽¹⁾ Breast cancer is the most commonly diagnosed cancer accounting for 23% of all diagnosed cancers and the most common cause of death in women worldwide. Cancer of breast has emerged as most common cancer in women in urban populations. It has rapidly replaced cancer cervix as the most common cancer in women in India. The incidence of benign breast diseases are more common as compared to malignant and inflammatory.⁽²⁾ In benign breast fibroadenomas are most common, constituting half of all cases.⁽³⁾ A benign proliferative lesion of the breast is an important risk factor for subsequent transformation to malignancy. Karyotype and molecular alteration in benign proliferative breast lesions are similar those of breast carcinoma.⁽⁴⁾ Histopathology plays a key role in management of breast diseases. It is an important component of diagnosis, treatment and prognosis in most breast diseases. Also, when assessing the adequacy of treatment in breast cancer, histopathologic assessment is the main criterion.⁽⁵⁾ The aim of study was to make clinicopathological profile of breast lesions and to assess the age and sex profile, distribution and histomorphological profile of inflammatory, benign and malignant lesions.

II. MATERIAL AND METHOD:

Patient and sample collection:

We received 106 cases of breast specimen during June 2018- June 2020, Out of 106 surgically specimen received 50 were lumpectomy, 40 had modified radical mastectomy, 10 had simple mastectomy, 5 were true cut biopsy and 1 lymph node biopsy. A detail history and clinical examination were recorded from the case file of respected cases. The slides were prepared and routine gross examination and microscopic examination were done.

III. Results and observation

Most of the patients were in age group 35-50 years who presented with breast lumps.

Table no 1 Age for Malignant Tumour and Benign Tumour.

Age	Malignant Tumour	Benign lesions
11-20	00	02
21-30	01	17
31-40	19	13

41-50	10	15
51-60	14	07
61-70	03	01
71-80	03	00
81-90	00	01
Total	50	56

The study shows that out of 106 cases maximum patients were above 40 years of age and in benign lesions patients were under 50 yr of age.

Table no.2 Tumour size.

Tumour size	Malignant Tumour	Benign lesions
≥3cms	38	25
< 3 cms	12	31
	50	56

The malignant tumour size were more than and equal to 3 cms in size in most of the patients (67%)

Table no 3. Clinical diagnosis and histological diagnosis

Diagnosis	Clinical diagnosis	Histological diagnosis
Carcinoma	50	50
Fibroadenoma	35	17
Fibrocystic disease	15	11
Fibrocystic+fibroadenoma	00	20
Phyllodes tumour	00	02
Mastitis	3	3
Galactocoele	3	3
Total	106	106

In our study Table no.3 shows that out of 106 cases 50 patients presented with breast carcinoma, 35 cases presented with fibroadenoma, 15 cases presented with fibrocystic disease. 3 were galactocoele and 03 were mastitis.

Table no.4 Histological grade.

Histological grade	No. of cases	Axillary LN metastasis
Grade I	18	08
Grade II	26	24
Grade III	06	06
total	50	38

In our study out of 50 cases, 18 cases were grade I

with 07 cases with lymph node metastasis, 26 cases were grade II with 24 showing LN metastasis and 06 cases were grade III all showing lymph nodes metastasis.

Table no.4 Histological grade.



Figure 1: Simple mastectomy specimen with attached retracted skin.



Figure 2: Modified radical mastectomy specimen with axillary tail with attached elliptical skin and nipple areola

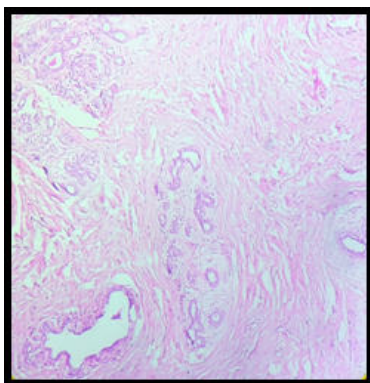


Figure 3. H&E section from benign breast disease (fibrocystic disease)

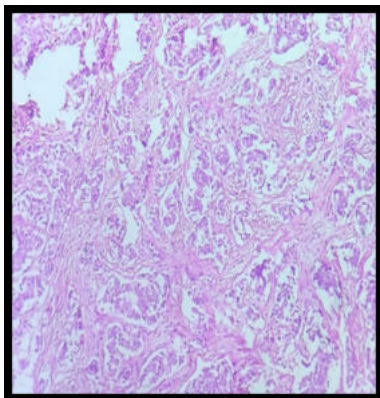


Figure 4. H&E slide malignant breast lesion (IDC) modified bloom Richardson grade III.

IV DISCUSSION

The incidence of breast has dramatically increased over last decade. There is very limited data regarding the distribution of various breast lesions. The focus of our study is to observe the distribution and incidence of various breast lesions.

Out of 106 cases of breast lesions, majority of cases in this study were non malignant 56 cases (52.8%) and 50 cases (47.17%) were malignant. Out of all nonmalignant lesions fibroadenoma constitutes the dominating lesion 17 cases (30.35%). These data were similar to study of Mansoor I and another study by Adesunkanmi AR et al, Amr et al, reported 30.7%. Kulkarni et al, 62.32%, Malik et al, 41 %, cases of fibroadenoma.⁽⁶⁻¹⁰⁾ In our study the most common age group of fibroadenoma was second and third decade which is comparable to the above studies.

In the present study, the ratio of benign to malignant lesions were 1.2:1. Kumar M et al⁽¹¹⁾, asserted that in Indian rural population the benign breast diseases are 5 to 10 times more common than breast cancers; while Aisha Memon A et al, referred that in west, benign breast lesions are 10 times more common than breast cancers. Kumar M et al, observed that incidence of benign breast diseases varies in different geographical areas, and benign breast diseases are common in developing countries but due to lack of education women in rural areas disregard the breast lump.⁽¹¹⁾ It is necessary that general features of individual breast diseases like incidence, age distribution, symptoms and palpatory findings are crucial and beneficiary for the diagnosis a, management and prognosis of these lesions. Illiteracy, social taboo, unawareness result in delayed diagnosis in both benign and malignant lesions. Such delay in diagnosis of malignant lesions is associated with poor prognosis.

In the present study, 50 cases (47.17%) were malignant. Shanthi V et al, studied 100 breast lesions and found 28% malignant pathology. In a study of Pradhan et al, in Nepal upto 15.5% cases were malignant. in another study reported from Nigeria, malignant lesions were diagnosed approximately 40% by Mayun et al.⁽¹²⁾

In the present study the mean age at presentation of carcinoma breast was 48.16 years. We found 51.85% of cases occurred in the post menopausal age group with 48.14% occurring less than 45 years of age. In the study by Ayadi L et al, 51.6% of cases occurred in less than 50 years of age with median age of 51 years.⁽¹³⁾

In the present study, the grading of tumor were done according to modified bloom Richardson score, we found 36% were grade I, 52% were grade II and 12% of cases were grade III. In the study by Ahmed Z et al, he found 4.17% as grade I tumors, grade II were 75.83% and grade III tumors as 20%.⁽¹⁴⁾ Mudduwa L et al, reported 14.6% as grade 1 tumors, 36.4% as grade 2 tumors and 49% as grade 3 tumors.⁽¹⁵⁾ The grade 1, grade 2 and grade 3 tumors in the study by Ayadi L et al, was 10.9%, 63.2% and 25.8%.

Study	Grade 1	Grade 2	Grade 3
Ahmed Z et al	4.17%	75.83%	20%
Mudduwa L et al	14.6%	36.4%	49%
Ayadi L et al	10.9%	63.2%	25.8%
Present Study	36%	52%	12%

In the present study, lymph node metastasis in infiltrating duct cell carcinoma was seen in 76 % of cases and 24% were negative for metastasis. We observed the number of lymph nodes positive for metastasis. Less than 4 in number were seen in 57.14% and those more than 4 were 42.86%. In the studies by various authors like Ahmed Z et al, Mudduwa L et al, Ayadi L et al, and Lokuhetty M, documented lymph nodes positive for metastasis as 74.77%, 57.7%, 65% and 41% respectively.^(13,14-16) Out of 14 cases with positive lymph nodes, 82.8% showed vascular invasion and necrosis in 90.7% of cases. In the study by Ahmed Z et al, vascular invasion was seen in 62.5% of cases and tumor necrosis was seen in 63.33 %¹⁴. In present study 3 cases (2.8%) of galactoceles were reported out of total 106 cases of breast diseases. Same incidence was reported by Bagale⁽¹⁷⁾ and Khanna S et al⁽¹⁸⁾, ie, 1.02% and 1.2% respectively. In our study, 3 cases were of inflammatory disease, that were between 21-30 years of age similar with study done by Khanna S et al. Inflammatory diseases of the breast formed 5.35% of benign breast diseases in our study. Our data is similar to that of Kulkarni et al who reported 8.7% incidence of inflammatory lesions. Aslam M et al found in his study that inflammatory lesions accounted for 11.8%⁽¹⁷⁾ incidence.

CONCLUSION

There is lack of awareness in Indian rural population about breast disease ,particularly carcinoma of breast which if diagnosed and treated early, the disease survival is very long . The pattern of breast lesions provides valuable information concerning clinicopathological profile of breast lesions. The clinical diagnosis of a breast lump must be correlated with histopathological diagnosis for correct and adequate treatment of patient.

REFERENCES

1. Malik M, Salahuddin O, Azhar M, Dilawar O, Irshad H, Sadia SA: Breast diseases; spectrum in Wahcantt; POF hospital experience. Professional Med J Sep 2010;17(3):366-372.
2. Mansoor I: Profile of female breast lesions in Saudi Arabia. JPMMA 2001;51(7):243-246.
3. Olu-Eddo A, Ugiagbe EE: Benign breast lesions in an African population: A 25-year histopathological review of 1864 cases. Niger J Med: J Niger Med Assoc 2011, 52(4):211.
4. Shwetha Jose, A Histopathological study of breast lesions: Our experience, International Journal of Science and Research 2018; 7(1): 365-366.
5. GogaiGeetanjali, BorgohainDiganta. Histopathological Spectrum of Breast Lesions-A Hospital Study. IJHRMLP. 2016; 2(1):73-78
6. Mansoor I. Profile of female breast lesions in Saudi Arabia. J Pakistan Med Assoc. 2001 Jul;51(7):243-6.
7. Adesunkanmi AR, Agbakwuru EA. Benign breast disease at Wesley Guild Hospital, Ilesha, Nigeria. West African J Med. 2001;20(2):146-51.
8. Amr SS, Sa'di AR, Ilahi F, Sheikh SS. The spectrum of breast diseases in Saudi Arab females: a 26-year pathological survey at Dhahran Health Center. Ann Saudi Med. 1995 Mar 1;15(2):125-32.
9. Sangeeta K, Voralla M, Kanchanmala G, Shanu S. Histopathological spectrum of breast lesions with reference to uncommon cases. Tuberculosis. 2009 Sep;2:1-45.
10. Malik M, Salahuddin O, Azhar M, Dilawar O, Irshad H, Sadia SA. Breast diseases; spectrum in Wahcantt; POF hospital experience. Professional Med J. 2010 Sep;17(3):366-72.
11. Kumar M, Ray K, Harode S, Wagh DD. The pattern of benign breast diseases in rural hospital in India. East Central African J Surg. 2010;15(2):59-64.
12. Mayun AA, Pindiga UH, Babayo UD. Pattern of histopathological diagnosis of breast lesions in Gombe, Nigeria. Nigerian J Med. 2008;17(2):159-62.
13. Ayadi L, Khabir A, Amouri H, Karray S, Dammak A, Guermazi M, et al. Correlation of HER-2 over- expression with clinico-pathological parameters in Tunisian breast carcinoma. World J Surg Oncol. 2008 Dec;6(1):112.
14. Ahmad Z, Khurshid A, Qureshi A, Idress R, Asghar N, Kayani N. Breast carcinoma grading, estimation of tumor size, axillary lymph node status, staging, and nottingham prognostic index scoring on mastectomy specimens. Indian J PatholMicrobiol. 2009 Oct 1;52(4):477.
15. Mudduwa LK. Quick score of hormone receptor status of breast carcinoma: Correlation with the other clinicopathological prognostic parameters. Indian J PatholMicrobiol. 2009 Apr 1;52(2):159.
16. Lokuhetty MD, Ranaweera GG, Wijeratne MD, Wickramasinghe KH, Sherifdeen AH. Profile of breast cancer in a group of women in a developing country in South Asia: is there a difference?. World J Surg. 2009 Mar 1;33(3):455-9.
17. PriyaBagale, N.V.Dravid, SachinBagale, NilamAhire. Clinicopathological Study of Benign Breast Diseases. International Journal of Health Sciences & Research 2013; 3 (2): 47-54.
18. Khanna S, Arya NC, Khanna NN. Spectrum of benign breast disease. Indian J of Surgery 1988; 50: 169-75.