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A Clinicopathological study of breast lesions in a Tribal population in rural Telangana: A 3-year retrospective analysis

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Introduction: Breast lesions is one of the commonest health conditions encountered by the female population worldwide. The incidence of breast cancer has been on the rise since the last decade, mainly due to the increased awareness and education of the demographic population. All the breast lesions, inflammatory, benign or malignant, arises considerable anxiety to the patients. The main objective of our study is to analyze the spectrum of breast disease according to the clinical presentation, age and histopathological correlation in the rural and tribal population of Telangana so that a more specific target population can be focused on in the future. And also, to develop a multi-disciplinary set in the screening as well as treatment in the hospital. **Materials and Method:** The data were collected retrospectively for the period of three year 2017 to 2019 from the histopathology records of RIMS, Adilabad, a tertiary care center and medical college serving the tribal population in the Telangana state and processed as per routine HPE laboratory procedure. The age, sex, presenting complaints and histopathological features were recorded. **Result:** Lump in the breast with or without pain is the most common presentation of breast diseases (63.1). The mean age of breast lesions is 29.5 years. Benign breast condition including tumour has a peak incidence in 2nd and 3rd decade. While malignant tumors in 4th decade. Benign breast conditions are most common (77%), and malignancies are at 23%. Fibroadenoma (95%) is the most benign tumor, followed by Fibroadenosis most common (3.4%) non-neoplastic breast lesions. Three cases of gynecomastia in the male breast were also present. Infiltrating ductal carcinoma is the most common malignant tumor of the breast. **Conclusion:** Although benign breast conditions are more common more awareness and education are required in the socially backward population in the rural area. More screen awareness programs are recommended from the institute to the deeper regions of the demographic population.

Keywords: Fibroadenoma, Infiltrating carcinoma of the breast, Fibroadenosis, Tribal

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Introduction

The breast is the glandular organ, which continuously changes physiologically throughout the reproductive age group and after that in women under the influence of hormones. Various breast structures give rise to different types of lesions, and clinical presentation varies from Discomfortness, pain, Lump with pain/painless, skin changes and, more importantly, anxiety [1,2]. The incidence of breast diseases is rising in India, which is due to increasing public awareness about breast lesions, particularly breast cancer.[3]. A breast lump in the breast is the most common clinical presentation followed only by pain which is the second commonest presentation. [4]. Histopathologically, a broad spectrum of pathological alterations is seen in breast lesions ranging from various types from inflammatory and benign conditions to life-altering malignant lesions like invasive cancers. [5,6]. Although benign breast lesions are the most commonly diagnosed condition, it is also the most neglected clinical symptoms in developing countries, especially in the rural population. [4,7,8]. The recognition of the various Non-Neoplastic and Neoplastic breast conditions is important, which are diagnosed by clinically and Radiological features but confirmed by Fine Needle Aspiration Cytology (FNAC) and Histopathological Examination (HPE) for differential diagnosis and also for the timely intervention and management [9]. The most common benign lesion of the breast is Fibroadenoma, and the commonest malignant lesion is Invasive Ductal Carcinoma (IDC). Few rare malignancies like Mucinous and Metaplastic carcinoma are also present. [10,11,12]. The incidence of Breast cancer is also on the rise in India, which is multifactorial most important is hormonal and so to some extent the lifestyle. Breast cancer is the second most common malignancy in the female population in India, the first being Carcinoma cervix The median age of breast cancer incidence in India is on an average ten years less than the western population. [13-14]. Diagnosis of breast cancer in young women may be difficult and diagnosed late as breast lumps are more likely to be interpreted as benign lesions because of the lower incidence rate of malignancy compared to older women. [15]. Mammary tuberculosis has been estimated to be 0.1 % of breast lesions examined histologically, and it constitutes about 3–4.5 % of surgically treated Breast diseases in developing countries. [16]. The present study was undertaken to analyze the clinical presentation with diagnosis and correlate with histopathological data. The incidence of breast lesions was not studied in this rural population of Telangana.

Material and Methods

The data was collected retrospectively from the histopathology records of RIMS, Adilabad, a tertiary care center and medical college serving the tribal population in the Telangana state bordering Maharashtra. The specimen data was collected for the period of three-year from 2017 to 2019. The specimen was received in 10% buffered formalin and processed as per routine HPE laboratory procedure and then embedded in Paraffin to prepare blocks. A total of 176 samples were collected. The sections were stained with H & E stains. All the specimens reported with the complete clinical and histopathological diagnosis were included in the study. The age, sex, presenting complaints and histopathological features were recorded from the MRD section with permission of the authority concerned. No ethical consideration was required since no patients or live animals were subjected in the present study.

Result

In the present study, 176 specimen data with Clinical presentation was collected for three years. Out of the 176, 3 patients were male (1.7%). Majority of the patients clinically presented with the Painless Lump in the breast 63.1%, followed by lump with pain 25.6%, Pain/ Discomfortness 7.9% and Nipple discharge 3.4%. (Table 1)

Table 1: Clinical presentation of the breast lesion

Presenting complaints	No of cases	%
Painless Lump	111	63.1
Pian and Lump	45	25.6
Pain / Discomfortness	14	7.9
Nipple discharge	6	3.4
Total	176	

The age incidence of breast lesions ranged from 14 years to 70 years The mean age of presentation of breast lesion was 29.4 years (Ref. Table 2). The incidence of benign tumors peaks in the 2nd and 3rd decade and inflammatory lesions of the breast. At the same time, Malignant lesions showed a peak 4th

And 5th decades. Benign neoplastic breast lesions constitute 71%. Other benign conditions of the breast are (8.5%) followed by the Inflammatory lesions (3.4 %) and Malignant Breast lesion constitute (13.1%).

Table 2: Age incidence of the breast lesion (n =176)

Age	Benign	Malignant	Inflammatory	Others
10 - 20 years	51	-	-	07
21- 30 years	45	-	04	05
31- 40 years	24	03	02	04
41- 50 years	05	10		02
51- 60 years	-	06		03
61- 70 years	-	04		
Total (n=176)	125 (71.1 %)	23 (13.1%)	06 (3.4%)	21 (11.9%)

Fibroadenoma is the most common benign tumor (95.2%), followed by Phyllodes tumor (3.4%). Fibroadenomas Fibrocystic disease and Atypical Ductal Hyperplasia of the breast is the most common benign breast lesions (3.4%), followed by galactocele (1.1.%), Sclerosing adenosis, lobular hyperplasia and Accessory breast (Table 3 & 4) and Acute mastitis and Lymphocytic Mastitis are the common inflammatory condition (1.1%) along with a case of granulomatous mastitis and Breast Abscess. (Table 5)

Infiltrating Ductal carcinoma is the most common Malignant tumor of the breast (9.1%), followed by 2 cases of carcinoma in situ and metaplastic carcinoma (1.1%) and a case of mucinous carcinoma and Malignant Phyllodes (0.6%) (Table 6)

Table 3: Benign tumors of The Breast

Benign Lesions	No of cases	%
Fibroadenoma	119	95.2
Phyllodes	6	3.4
Total	125	71.1

Table 4: Other Benign Conditions of breast

Other Conditions	No of cases	%
Fibro adenosis	6	3.4
Gynecomastia	3	1.7
Fibrocystic diseases	3	1.7
Atypical Ductal Hyperplasia	3	1.7
Galactocele	2	1.1
Florid ductal papillomatous	1	0.6
Lobular hyperplasia	1	0.6
Sclerosing Adenosis	1	0.6
Accessory breast	1	0.6
Total	21	11.9

Table 5: Inflammatory Conditions of breast

Inflammatory conditions	No of cases	%
Acute mastitis	2	1.1
Lymphocytic Mastitis	2	1.1
Abscess	1	0.6
Granulomatous mastitis	1	0.6
Total	6	3.4

Table 6: Malignant Conditions of The Breast

Malignant Lesions	No of cases	%
Invasive Ductal Carcinoma	16	9.1
Ductal carcinoma in-situ	2	1.1
Metaplastic Carcinoma	2	1.1
Lobular Carcinoma	2	1.1
Mucinous Carcinoma	1	0.6
Malignant Phyllodes	1	0.6
Total	24	13.1

Discussion

The incidence of breast cancer is rising in the Indian subcontinent mainly because of the awareness programs like introducing self-examination of breasts and the evolution of social media to the common man [5]. The advantage of detecting the breast lesion early is significant, although it gives people anxiety but prompts them to seek medical advice also earlier. [7]. But according to the study by Philip et al. [8], There is a delay in seeking medical advice ranging from 2 weeks to 48 months. In the present study, 88% of patients with breast diseases present with lumps either with or without pain. This finding is more closely correlates with the results of Sarkar et al. 2018, [4]. Charles et al. 2018, [7]. and Priya et al. 2020. [14]. 3.4% of the patients presented with discharge from nipple is the least common presentation is similar to the study of Shailender et al., [10] Charles et al. 2018. These all fall in the category of malignant lesions of the breast. Charles et al., in their study, states that the reason for not seeking medical consultancy at early stages of breast lesion suggests that it may be due to lack of awareness and absence of skin manifestation, which prompts the patient to wait for a more extended period.

In the present study, the incidence of breast lesions was high in the 2nd and 3rd decade, with most of them falling on the category of a benign breast lesions, including benign neoplasm. The average age of presentation was 29.5 years. Fibroadenoma was the most common benign

Tumor, and Fibroadenosis was the frequent non-neoplastic breast lesion. This is similar to the studies of Honey bhasker et al. 2018, [1] Savitha et al. 2015, [2] savrav sarkar et al. 2018. [4]. In our study, the peak incidence of malignant breast disease was seen only in the 4th and 5th decade and incidence of malignant tumors in the 2nd and 3rd decade was not present, which is similar to the study of Geetanjali et al. 2018[10]. Savitha et al 2015, [2] savrav sarkar et al 2018. [4].

In the present study, 87% of breast lesions are benign, including neoplastic, inflammatory, and other mild conditions and 13% are malignant tumors. Fibroadenoma (95%) is the most common benign tumor of the breast, followed only by phyllodes tumor. At the same time, infiltrating ductal carcinoma (9%) was the most malignant condition. Our study correlates with most national and international analyses like Jyothi et al. 2018. Charles et al 2015, Phillipo et al 2016, Deepika et al 2018, [5]. Gogoi et al. 2016. In their studies, they discuss the possibility of easy and early diagnosis of Fibroadenoma may be due to the clinical presentation as a well-formed lump, which easy to examine than a minimal ill-defined presentation of a malignant tumour. And also, Charles et al. discuss that since there is no skin manifestation in the early stages of malignancy and due to lack of awareness, the patient seeks medical advice very late in life.

Although Gynecomastia is a rare condition in the male population, in our study, male patients (1.7%) were diagnosed with gynecomastia, which is similar to Shailender et al. 2018, [9] and Altaf et al. 2006. [12]. In our study, 0.6% was diagnosed with Granulomatous mastitis (most probably TB), which indicates the rarity of the entity in breast both in the Asian and western population compared with the studies of Zheeba et al. 2018 [17] and Lourantau et al. 2012.

Conclusion

The present study was taken up to analyze the spectrum of breast lesions in this part of Telangana with a population comprising most of the tribal population. The examination of breast lesions in this particular area is taken up for the first time. So, analyzing the spectrum of breast disease will enable a practical diagnostic approach with optimal use of resources and personnel and also establish any additional diagnostic methods if Required for providing quality care and treatment for the patients in coordination with clinical departments. As no study was taken up before in this region, this study offers a birds-eye view of the breast lesions. It provides scope to educate and increase the awareness in the rural tribal population concerning the clinical presentation and educate them on early detection of breast lesions. It was also suggested to the institute to increase the number of awareness programs and also to establish exclusive Breast clinics in the OPD with required staff and equipment once a week.

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