



Spectrum of Histopathological patterns of breast lesions studied over a period of 4 years - an observational study in a tertiary care hospital

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Introduction

The diseases of the breast are much common and include problems related to pregnancy and lactation¹, inflammatory conditions, non-neoplastic proliferative lesions and various neoplasms. The purpose of the current study is to review all cases of breast diseases seen in our department over a period of four years and to determine the pattern of histo-pathological diagnosis of breast diseases in our setting.

Methods

This is a retrospective study conducted in the postgraduate department of pathology, Government Medical College, Srinagar, over a period of 4 years from 1st January, 2015 to 31st December, 2018. A total of 498 cases were included in the study. All the required hospital based records and the corresponding H&E stained slides were retrieved and reviewed. Data regarding the age, laterality of the lesion and prominent histopathological morphology were analyzed.

Results

Out of 498 cases of lesions of the breast, 390 (78.3%) cases were benign while 108(21.6%) cases were malignant. The benign to malignant

ratio was 3.16:1. The mean age of benign breast disease was 25 years with age range of 14 to 48 years. The mean age of malignant breast diseases was 52 years with age range of 28 to 78 years. There were 479 cases of the female breast and 19 cases of male breast.

Among the benign breast diseases, inflammatory lesions comprised 48(12%) cases and benign breast lesions comprised 342(88%) cases, with the mean age of these two being 30.33 years and 27.8 years respectively.

Fibroadenoma was the commonest lesion affecting the breast and was diagnosed in 237(60.56% of benign lesions and 47.59 % of all lesions) cases. The age range was between 14 and 50 years with a mean of 24.46 years. There was a left sided preponderance with 158 cases occurring in left breast.

Fibrocystic disease was the second most common benign lesion among female patients comprising 16 (4% of benign cases and 3% of all) cases with the age range of 26-50 years. Other benign lesions included Intraductal papilloma, Epithelial hyperplasia and Adenosis. There were 9 cases of benign phyllodes with the mean age of 35 years. Non specific or normal biopsies were found in around 8 cases.

Among the inflammatory lesions abscess and acute mastitis were most common and constituted the second major category among the non malignant cases (12%). There were 27 cases of acute mastitis and 11 cases of Abscess. 8 cases of granulomatous mastitis and 2 cases of plasma cell mastitis were also seen.

18 cases of breast lesions were seen in male patients out of which 17 were gynecomastia. Mucinous carcinoma of the breast was diagnosed in one of the patients.

Breast cancer was seen in around 108 cases, among which invasive ductal carcinoma represented 102 cases, invasive lobular carcinoma and mucinous carcinoma represented 1 case each. There were 5 cases of in situ ductal carcinoma. Breast cancer comprised around 21 % of the cases.

Discussion

There is a wide spectrum of diseases both benign and malignant affecting the breast from teen age to throughout the adult life. The incidence of these presentations varies in different geographical areas according to the spectrum of breast diseases encountered. Overall, breast problems are commonly seen in females as compared to males^{2,3}. Similarly, in this study females were more affected than males with female to male ratio 80:1.

Benign breast diseases are significantly more common than the malignant conditions worldwide. In this study Benign Breast diseases comprised 78.3% of all breast lumps with benign to malignant ratio 3.16:1 which is comparable to other studies^{4, 5}. Benign breast lesions (342) were found to be more common than inflammatory lesions (48) in our patients which is consistent with other reports^{4, 6, 7}.

The median age of the patients was 28.17 with the age ranging from 13 to 67 years. Most of the patients were in 21-30 years age group as reported in other studies.^{8, 9} Another study found majority of patients in 31-40 years age group.¹⁰ There was left sided predominance of disease. About 46.5%

occurred on the left, 38.7% on the right, while 1.2% were bilateral. This agrees with many reports.^{6, 11} Few of the reports show right sided predominance.¹²

In agreement with many studies Fibroadenoma was the most common lesion and constitute (48.82%) of all cases and 60.56% of benign lesions.^{7, 8, 9} Similar frequency of FA was found in some reports but some reports showed lower frequency.^{4, 6}

The high frequency of FAs has been reported in Saudi Arab^{4, 8}, India¹⁴ and black American¹⁵ and African females^{9, 11} and contrast with the lower frequency in Western white females¹³.

The cause of higher frequency of FA in our females is not clear but racial predisposition could be a factor. Most of our cases were in 3rd decade of life followed by 2nd decade, as also found by others.⁸ However some reported peak in the 2nd decade.⁹ It is usually a disease of early reproductive life and 98.45% of our cases were below 40 years of age.

In accordance with many authors fibrocystic change was the second most common benign lesion and constitutes 4% of benign lesions.^{4, 8, 16} Fibrocystic change occurs predominantly between 26 and 50 years of age (76.5%)

Inflammatory lesions were less common than benign breast lesions in this review and comprised 12%, This frequency is comparable to many other studies.^{5, 17, 18} Acute mastitis and Breast abscess were the commonest inflammatory lesion. Peak incidence was in 3rd decade and 89.66% were less than 40 years of age, reflecting the association of this lesion with pregnancy and lactation. Chronic mastitis comprised 4.53% cases, figure consistent with other studies.

Granulomatous inflammatory changes in the breast can be related to specific infections like mycobacterium tuberculosis, foreign material such as silicon or suture material, trauma or systemic autoimmune disease. Tuberculosis is a rare disease affecting breast in 1.48% cases as observed by Malik et al in their study.¹⁷ In the present series, it accounts 1.23% of all breast

lesions. A much higher figure of 23% was however reported in the literature.¹⁸

Gynaecomastia was the only breast disease of males in this study. It comprised 3 % of all breast lesions which compares well with the 1% quoted in Caucasian series.¹⁹

Breast cancer represented 21% of breast lesions with predominance of ductal carcinoma. The most common pattern of breast cancer in the present study was ductal carcinoma representing 29.1%, followed by lobular carcinoma representing 4.4% and mixed (1.9%). This is comparable to other studies²⁰. In the current study, breast cancer was mostly found among elderly patients (>41 years of age) (63.2%) and less in younger patients (<40 years) (18%) with the mean age of onset of 48.6 years.²¹

Conclusion

The profile of breast lesions in the present series follows a pattern similar to that of other developing countries. The commonest breast lesion was fibroadenoma followed by Invasive ductal carcinoma, inflammatory lesions and then other benign lesions.

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