

ORIGINAL RESEARCH

Histomorphological analysis of breast lesions in young females

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ABSTRACT

Background: Globally, breast cancer is the most prevalent cancer type among women. The present study assessed histomorphological spectrum of breast lesions in young females. **Materials & Methods:** 65 females with breast lesions were enrolled. Breast trucut biopsies, needle core biopsies, excisional biopsies, and mastectomy specimens were obtained. Standard techniques were used for the histopathological evaluation, which included 10% formalin, paraffin embedding, and H&E staining. **Results:** Benign breast lesions found to be fibrocystic breast disease in 4, fibroadenoma breast in 7, fibroadenomatosis in 6, benign breast lesion in 12, breast abscess in 10, proliferative breast disease without atypia in 7, benign fibrous histiocytoma in 4, tubular adenoma in 3, accessory breast in 1, lipoma in 5, and granulomatous lesion in 1 case. The difference was significant ($P < 0.05$). Malignant lesions were invasive ductal carcinoma breast in 3 and proliferative breast disease with atypia in 2 cases. The difference was non-significant ($P > 0.05$). The site of breast lesion was upper outer Quadrant in 25, lower Outer Quadrant in 10, Upper Inner Quadrant in 7, Lower Inner Quadrant in 8, Central Quadrant in 6 and Whole Quadrant in 9 cases. The difference was significant ($P < 0.05$). **Conclusion:** The majority of cases had benign lesions rather than malignant ones. Benign breast lesions and breast abscesses were frequent lesions. The upper outer quadrant was a common site.

Key words: Breast lesions, Malignant, histopathology

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INTRODUCTION

Globally, breast cancer is the most prevalent cancer type among women. In the United States, the incidence and mortality rates of invasive breast cancer were 124.9 and 25.5 per 100,000 women, respectively, in 2002.¹ In Europe, it remains the second most frequent cancer. Approximately one-third of all malignancies in females are breast cancers. 30.9 is the crude incidence rate and 53.8 is the age standardized incidence rate (ASR) worldwide per 100,000. When compared to inflammatory and malignant breast disorders, benign breast diseases are more common. Patients present with advanced disease because of a lack of knowledge and education. The cause and pattern of breast illness vary throughout nations.²

The types of breast neoplasms vary. Compared to benign tumors, malignant breast lesions are less frequent.³ Breast benign lesions typically appear in the second decade of life. Frequent benign lesions of the breast include tubular adenoma, lactating adenoma, phyllodes tumor, and fibroadenoma.⁴ Fibrocystic disease, granulomatous mastitis, and

inflammatory lesions like breast abscesses are examples of benign proliferative lesions. Melanogenic lesions include medullary cancer, ductal carcinoma, lobular carcinoma, colloid carcinoma, and mucinous carcinoma.^{5,6} The present study assessed histomorphological spectrum of breast lesions in young females.

MATERIALS & METHODS

The present study comprised of 65 females with breast lesions. Patients' consent was obtained before starting the study.

Data such as name, age, etc. was recorded. Breast trucut biopsies, needle core biopsies, excisional biopsies, and mastectomy specimens were obtained. Standard techniques were used for the histopathological evaluation, which included 10% formalin, paraffin embedding, and H&E staining. Tumor morphology, grade, and stage were among the variables that were noted. Site of lesion was noted. The results were compiled and subjected for statistical analysis. P value less than 0.05 was set significant.

RESULTS

Table I Benign breast lesions

Benign	Number	P value
Fibrocystic breast disease	4	0.02
Fibroadenoma breast	7	
Fibroadenomatosis	6	
Benign breast lesion	12	
Breast abscess	10	
Proliferative breast disease without atypia	7	
Benign fibrous histiocytoma	4	
Tubular adenoma	3	
Accessory breast	1	
Lipoma	5	
Granulomatous lesion	1	

Table I, graph I shows that benign breast lesions found to be fibrocystic breast disease in 4, fibroadenoma breast in 7, fibroadenomatosis in 6, benign breast lesion in 12, breast abscess in 10, proliferative breast disease without atypia in 7, benign fibrous histiocytoma in 4, tubular adenoma in 3, accessory breast in 1, lipoma in 5, and granulomatous lesion in 1 case. The difference was significant ($P < 0.05$).

Graph I Benign breast lesions

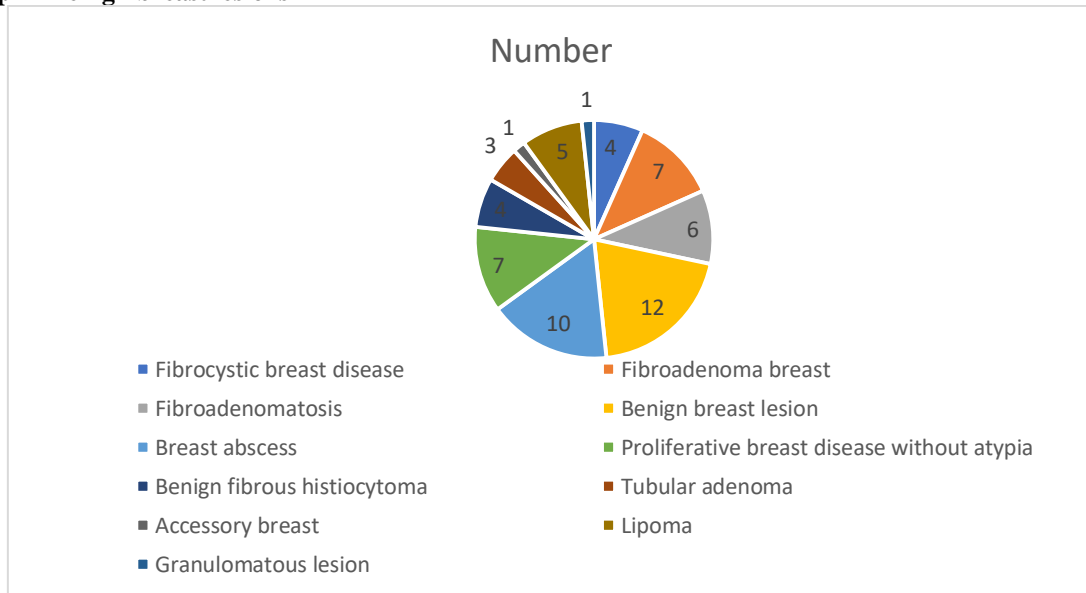


Table II Malignant breast lesions

Diagnosis	Number	P value
Invasive ductal carcinoma breast	3	0.92
Proliferative breast disease with atypia	2	

Table II shows that malignant lesions were invasive ductal carcinoma breast in 3 and proliferative breast disease with atypia in 2 cases. The difference was non-significant ($P > 0.05$).

Table III Site of breast lesion

Site of breast lesion	Number	P value
Upper Outer Quadrant	25	0.05
Lower Outer Quadrant	10	
Upper Inner Quadrant	7	
Lower Inner Quadrant	8	
Central Quadrant	6	
Whole Quadrant	9	

Table III shows that site of breast lesion was upper outer Quadrant in 25, lower Outer Quadrant in 10, Upper Inner Quadrant in 7, Lower Inner Quadrant in 8, Central Quadrant in 6 and Whole Quadrant in 9 cases. The difference was significant ($P < 0.05$).

DISCUSSION

After cervical carcinoma, carcinoma breast is the second most frequent cancer in India, affecting 20 out of every 1,000 women.⁷ There are many different types of breast lesions, ranging from inflammatory non-neoplastic and benign lesions to invasive carcinomas that can be fatal.⁸ These lesions include various entities with amazingly diverse defining traits. Breast lesions are becoming one of the leading causes of death for women worldwide.⁹ The majority of breast lesions typically manifest as breast swelling or lumps, which makes it difficult for female patients to disclose the condition to their doctors in a timely manner for an evaluation.¹⁰ The present study assessed histomorphological spectrum of breast lesions in young females.

We found that benign breast lesions found to be fibrocystic breast disease in 4, fibroadenoma breast in 7, fibroadenomatosis in 6, benign breast lesion in 12, breast abscess in 10, proliferative breast disease without atypia in 7, benign fibrous histiocytoma in 4, tubular adenoma in 3, accessory breast in 1, lipoma in 5, and granulomatous lesion in 1 case. In all, 95 women with breast tumors were examined between 2010 and 2012 at a tertiary teaching hospital in Mauritius, according to Raju et al.¹¹ Of the ladies, 26 were under 30 while the remaining women were over 30. The majority found the lump on their own, and after four weeks, over 80% of them went to see the caregiver. 70.5% of the masses were benign, while 29.5% were malignant. Women under 30 were most likely to have fibroadenoma. With one exception, most of the cancer cases were in adults older than thirty. Overweight was the main risk factor that was substantially linked to cancer.

We found that malignant lesions were invasive ductal carcinoma breast in 3 and proliferative breast disease with atypia in 2 cases. We observed that site of breast lesion was upper outer Quadrant in 25, lower Outer Quadrant in 10, Upper Inner Quadrant in 7, Lower Inner Quadrant in 8, Central Quadrant in 6 and Whole Quadrant in 9 cases. Sandhu et al¹² assessed the epidemiology and management strategies for breast cancer patients. The Mean age of female breast cancer patients was found to be lower compared to the western world, with an average difference of one decade. A majority of the patients were from a rural background and had a longer duration of symptoms compared to urban patients. Lump in the breast was a dominant symptom. Familial breast cancer was uncommon. Left sided breast cancer was slightly preponderant. Screening by mammography and staging procedures such as bone scan, Computed Tomography (CT) scan, and Magnetic Resonance Imaging (MRI) were sparsely used. The most common histology was infiltrating duct carcinoma.

Siddiqui et al¹³ evaluated the frequency of breast diseases in females. A retrospective analysis of 3279 breast specimens received over a period of 4 years (1993-1996) at the department of pathology. Out of a

total of 3279 breast specimens, common breast lesions included infiltrating duct carcinoma 37%, followed by fibro adenoma 16.95%, fibrocystic change 13.96%, mastitis 6.83% and duct ectasia 5.33%. Majority of the cases of infiltrating duct carcinoma were encountered in the 5th and 6th decades of life. Tumour size was 2 or >2 cms. in 93% of cases and 40% of them showed 3 or >3 positive lymph nodes. Grade I tumours were 11.38%, grade II 59.17% and grade III tumours 29.47%. Correlation of grade with lymph node metastases (3 or >3+ve nodes) showed 15 cases (1.53%) of grade I, 178 cases (18.25%) of grade II and 68 (6.97%) cases of grade III tumours.

CONCLUSION

Authors found that the majority of cases had benign lesions rather than malignant ones. Benign breast lesions and breast abscesses were frequent lesions. The upper outer quadrant was a common site.

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