

ORIGINAL RESEARCH

Histopathological Diagnoses in Women Presenting With Breast Masses

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ABSTRACT

Background- Breast lumps or masses are a common occurrence, especially among women of reproductive age. A significant percentage of women experience breast disease at some point in their lives, often presenting as a new breast mass. **Materials and methods-** This study is conducted in the department of pathology, in a tertiary care teaching hospital, patiala which involved 50 consecutive women patients. The participants were females aged 18–60 years with breast masses identified during the study period. The data analysis was done using SSPS software. **Results-** The presence of a left breast mass was reported in 70% of the cases while 30% did not exhibit this characteristic. Regarding the presence of a right breast mass, 60% of the participants showed this feature, with 40% not displaying a mass on the right side. **Conclusion-** Breast cancer represents a major global health challenge, as underscored in our study by the complexity of breast masses, the common occurrence of benign conditions such as fibroadenoma, and the critical role of timely detection and comprehensive care in ensuring effective management.

Keywords- Breast, lumps, mammary

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INTRODUCTION

Breast lumps or masses are a common occurrence, especially among women of reproductive age. A significant percentage of women experience breast disease at some point in their lives, often presenting as a new breast mass.¹ These masses can have various causes, ranging from benign conditions like adenosis to more aggressive malignancies.² While breast masses are predominantly found in adult women, it's important to note that children and men can also be affected. Male breast cancer is a recognized condition that necessitates a high level of suspicion for prompt diagnosis and treatment.

The breast, also known as the mammary gland, is a specialized sweat gland that contains a combination of fibrous, glandular, and adipose tissue. Within each breast, there are typically 15 to 20 lobes that are connected by lactiferous ducts, which come together beneath the nipple in the subareolar region.^{3,4} These lobes are supported by both fibrous and fatty stroma. Lymphatic drainage primarily occurs through the axillary lymph nodes, involving nodes such as the pectoral, subscapular, and internal mammary nodes.

Breast tissue is present in both children and males, although it is more developed in females of reproductive age due to hormonal fluctuations that

occur during puberty.⁵ Following menopause, there is significant involution of breast tissues, where the glandular tissue undergoes atrophy due to decreased levels of estrogens in circulation. This atrophy leads to the replacement of glandular tissue with fatty tissue.

Breast cancer ranks as the most prevalent cancer type among women globally, constituting approximately 12% of all cancer cases. However, it's crucial to emphasize that the majority of breast lumps turn out to be benign.

MATERIALS AND METHODS

The study involved 50 consecutive women attending tertiary care hospital. The participants were females aged 18–60 years with breast masses identified during the study period. Exclusion criteria included male patients, individuals unwilling to undergo examination, those with ulcerated/fungating breast masses, and those without demonstrable breast masses.

A structured questionnaire collected data on socio-demographic factors, clinical symptoms, and histopathological outcomes. Biopsies were conducted based on the type of mass detected, guided by ultrasound or open biopsy. Histopathological

diagnoses were obtained, and findings were analyzed. Data analysis was done using SSPS software.

RESULTS

The presence of a left breast mass was reported in 70% of the cases (N=35), while 30% (N=15) did not exhibit this characteristic. Regarding the presence of a right breast mass, 60% of the participants (N=30) showed this feature, with 40% (N=20) not displaying

a mass on the right side. In terms of associated pain, it was found that 50% of the individuals (N=25) reported experiencing pain, while an equal percentage of 50% (N=25) did not have associated pain symptoms. Furthermore, the presence of nipple discharge was observed in 64% of the cases (N=32), with 36% (N=18) of participants not reporting nipple discharge as a symptom.

Table 1 Distribution of clinical symptoms of the patients

Variable		N	%
Presence of a left breast mass	Yes	35	70
	No	15	30
Presence of a right breast mass	Yes	30	60
	No	20	40
Presence of associated pain	Yes	25	50
	No	25	50
Presence of nipple discharge	Yes	32	64
	No	18	36

Table 2 Distribution of histopathological outcome and diagnosis of the breast masses

Variable		N
Nature of mass (outcome)	Benign	32
	Malignant	18
Histopathological diagnosis	Fibro adenoma	16
	Fibrocystic changes	6
Benign	Cyst	5
	Abscess	3
	Lipoma	2
	Ductal carcinoma in-situ	15
Malignant	Invasive Ductal carcinoma	3

Out of the total cases examined, 32 cases were identified as benign masses, while 18 cases were classified as malignant. Among the histopathological diagnoses, fibroadenoma was the most common benign finding with 16 cases, followed by fibrocystic changes with 6 cases and then followed by cyst, abscess, lipoma, each accounting for 5, 3, and 2 cases respectively. In the malignant category, ductal carcinoma in-situ was the predominant diagnosis with 15 cases, followed by 3 cases of invasive ductal carcinoma. These findings provide a clear overview of the nature of the breast masses observed and the corresponding histopathological diagnoses made in the study.

DISCUSSION

Breast cancer is a prevalent type of cancer in women and ranks as the second leading cause of cancer-related deaths among women globally.⁶ The breasts are paired glands situated above the pectoralis major muscle, varying in size and density. They consist of milk-producing cells organized in lobules, which are grouped into lobes with fat dispersed among them.⁷ Secretions like milk are generated in acini and discharged through lactiferous ducts, which open at

the nipple.⁸ The breasts are held in place by Cooper ligaments, providing support to the breast structure.

Our study revealed that 70% (N=35) of cases presented with a left breast mass, while 30% (N=15) did not show this characteristic. Additionally, 60% (N=30) of participants displayed a right breast mass, with 40% (N=20) lacking a mass on the right side. Concerning associated pain, 50% (N=25) reported experiencing pain, while an equal percentage of 50% (N=25) did not. Moreover, nipple discharge was noted in 64% of cases (N=32), while 36% (N=18) did not report this symptom. The majority of breast masses in our study were detected in the left breast (70%). Similarly, Muddegowda et al. in India also reported a higher prevalence of masses in the left breast (74.66%).⁹

Benign breast diseases are generally more common than their malignant counterparts, with fibroadenoma being the most frequently histologically confirmed benign breast condition. In a study by Okoye et al.¹⁰ It was discovered that benign breast lesions were more prevalent than malignant breast lesions, with a ratio of 2.3:1. Furthermore, they observed that benign lesions tended to manifest approximately 20 years earlier than malignant lesions.

Upon histopathological analysis in our study, 32 cases were identified as benign masses, while 18 were categorized as malignant. The most prevalent benign discovery was fibroadenoma, present in 16 cases, followed by fibrocystic changes in 6 cases and then followed by cyst, abscess, and lipoma, each accounting for 5, 3, and 2 cases respectively. Within the malignant group, ductal carcinoma in-situ was the most common diagnosis, with 15 cases, followed by 3 cases of invasive ductal carcinoma. These results offer a comprehensive insight into the breast masses observed and the corresponding histopathological assessments carried out in our research.

Amritha et al.'s study reported that 76.7% of cases were benign, with fibroadenoma being the most frequently observed (48.3%), whereas ductal carcinoma was the predominant type of malignant lesion (75%). This prevalence of benign cases was consistent with findings from studies conducted by Jahan, Kapoor, and Sarangan in 2017^{11,12}. Our study revealed that 64% of lumps were benign, predominantly fibroadenoma(50%), while 18% of cases were malignant, out of which ductal carcinoma in situ (83.3%) was the most prevalent malignant lesion.¹³

CONCLUSION

Breast cancer poses a significant global health threat, with our study emphasizing the complexity of breast masses, the prevalence of benign diseases like fibroadenoma, and the importance of early detection and comprehensive care for effective management.

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