

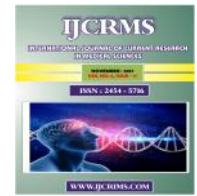


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## Clinicopathological study of various breast diseases in different age groups

**Dr. Venita Kapur**, Professor, Department of Surgery,  
Government Medical College/Guru Nanak Dev Hospital, Amritsar

**Dr. Bhupinder Singh Walia**, Asst. Professor, Department of Surgery,  
Government Medical College/Guru Nanak Dev Hospital, Amritsar

**Dr. Sumitroj Singh**, Professor, Department of Surgery,  
Government Medical College/Guru Nanak Dev Hospital, Amritsar

**Dr. Kiranjot**, Junior Resident, Department of Surgery,  
Government Medical College/Guru Nanak Dev Hospital, Amritsar

**Dr. N.S. Neki**, Professor and Head, Medicine Deptt,  
Govt. Medical College/ Guru Nanak Dev Hospital, Amritsar, India

Corresponding Author: **Dr. Bhupinder Singh Walia**, Asst. Professor, Dept. of Surgery,  
Govt. Medical College/ Guru Nanak Dev Hospital, Amritsar, 143001, India

E- mail: [bhupindersinghwalia6@gmail.com](mailto:bhupindersinghwalia6@gmail.com)

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### Abstract

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Breast diseases are a common finding in India. Despite advances in imaging technology, invasive histopathological studies, and surgical techniques, the diagnosis and management of breast diseases continues to be demanding and complex.

**Aim:** Considering the importance of breast disorders among females, the present study was undertaken to find out prevalence and different clinicopathological aspects of various breast diseases in different age groups.

**Material and methods:** Two hundred cases of breast diseases coming to the outpatient and indoor department of the Guru Nanak Dev Hospital/Govt. Medical College, Amritsar (Punjab) were studied. The clinical features, methods of diagnosis and management were studied. A detailed history-taking and clinical examination was done on all the patients. All patients, as and when indicated, underwent USG breast, mammography, FNAC and core needle biopsy of the lesion. Patients were followed up during and after treatment.

**Results:** Out of the 200 patients taken into study, the most common pathology was fibroadenoma (41.7%) and most patients presented between 11-20 years (32 cases) of age group followed by 21-30 years (24 cases) of age group. followed by fibroadenosis (21.5%) with maximum age incidence in the age group of 31-40 years. Inflammatory diseases of the breast formed 10.7% of benign breast diseases in our study and maximum age incidence found between 21-40 years of age. Granulomatous pathology constituted 8 % and were in between 31-40 years of age group. Carcinoma breast was reported maximum above the age of 50 years (32 cases) in this study followed by 41-50 years (22 cases) and it constituted 30.5% of all breast diseases. Other diseases reported include galactocele (2 cases), gynecomastia (2 cases), and accessory breast (2 cases).

**Conclusion:** Majority of breast diseases are benign in early reproductive years of life ie 2nd and 3rd decade of life. The risk of malignancy increases as the age advances. All the patients with discrete breast lumps should undergo a triple assessment to make an early diagnosis.

**Keywords:** Breast diseases, clinicopathological aspects, age groups, fibroadenosis.

## Introduction

Breast diseases are one of the commonest ailments among females worldwide. Patients with breast-problems make up a major part of the patient load at a general surgical out-patient clinics. Breast is a dynamic organ which undergoes cyclical changes throughout a women's reproductive life. Benign breast diseases are more common causes of breast problems and 4 times more frequent than malignant ones and the lifetime risk of clinical benign breast disorder was calculated to be more than 50%<sup>1</sup>. Breast cancer is the most common malignancy in developed nations in women. The distribution of clinical symptomatology reveals symptoms of breast diseases such as breast lumps, breast pain or tenderness, nipple discharge or inversion and changes in skin of breast. These are common in women of all ages from adolescents to older women.

In recent years, especially in the west, public awareness and media publicity about self-examination and screening and the possible advantages of early treatment have encouraged earlier presentation.

## Objective

1. To determine the clinical features of patients in different ages presenting with breast diseases in Outpatient Departments and indoor wards of Guru Nanak Dev Hospital, Amritsar.
2. To find out the age wise distribution of various breast diseases.

## Methods

The present study was conducted in the department of Surgery of Guru Nanak Dev

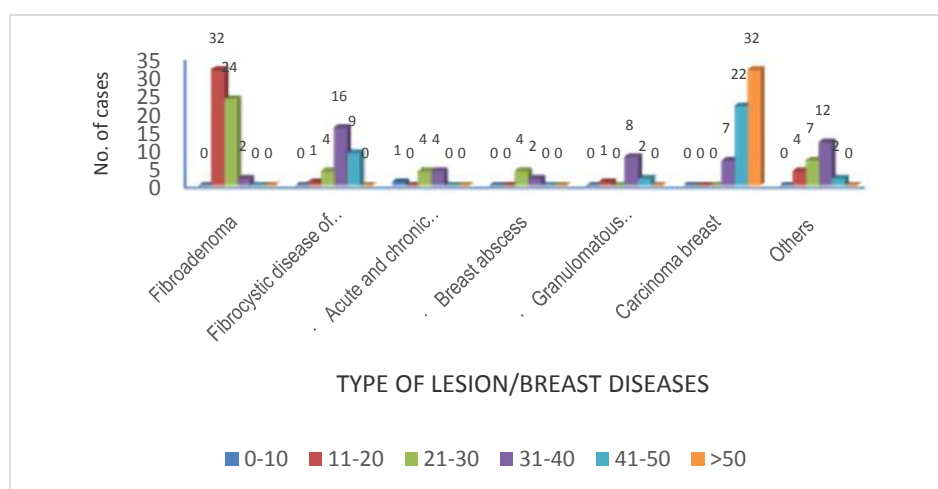
Hospital attached to Govt. Medical College, Amritsar. All patients were examined clinically, then were subjected to mammography/ultrasonography and those having lump in breast were subjected to FNAC. Present study included 200 cases of breast disorders. The patients of all ages were considered. Clinical examination was done to assess the nature and extent of the disease. Diagnosis was made on local examination of the breast. All quadrants of breast were examined for any lump in the breast. Both breasts were examined along with lymph node examination on both sides.

## Observations and Results

The present study of 200 cases of breast disorders was done in surgical department of Government medical college, Amritsar. Patients were subjected to physical examination, mammography, ultrasonography, FNAC and histopathology as required. In this study it was found that 41.7% of all breast diseases were fibroadenoma (58 cases) and most patients presented between 11-20 years (32 cases) of age group followed by 21-30 years (24 cases) of age group. Fibrocystic disease comprised of 30 cases among 200 cases (21.5%) of breast diseases with maximum age incidence in the age group of 31-40 years. Inflammatory diseases of the breast formed 10.7% of benign breast diseases in our study and maximum age incidence found between 21-40 years of age. Granulomatous pathology constituted 8 % and were in between 31-40 years of age group. Carcinoma breast was reported maximum above the age of 50 years (32 cases) in this study followed by 41-50 years (22 cases) and it constituted 30.5% of all breast diseases. Other diseases reported include galactocele (2 cases), gynecomastia (2 cases), and accessory breast (2 cases). (**Table-1**)

**Table 1: Distribution of breast diseases according to the various disease spectrum in different age groups.**

Type of lesion/ breast diseases	Age groups (number of cases)					
	0-10	11-20	21-30	31-40	41-50	>50
Fibroadenoma	-	32	24	2	-	-
Fibrocystic disease of breast (fibroadenosis)	-	1	4	16	9	-
Inflammatory diseases						
Acute and chronic mastitis	1		4	4	-	-
Breast abscess	-		4	2	-	-
Granulomatous pathology	-	1	-	8	2	-
Carcinoma breast	-		-	7	22	32
Others	-	4	7	12	2	-
Total	1	38	43	51	35	32



Maximum number of females in the age group of 11-40 years were found to have benign breast

disease, whereas carcinoma breast was common in the age group of 41-60 years. (Table 2,3).

**Table – 2 Age wise distribution of benign breast diseases**

Age in years	Number of benign cases	Percentage
0-10	1	0.7%
11-20	38	27.3%
21-30	43	31.1%
31-40	44	31.6%
41-50	13	9.3%
>50	0	0%
Total	139	100%

**Table-3 Age distribution of carcinoma breast**

Age in years	Number of cases	Percentage
0-10	0	0%
11-20	0	0%
21-30	0	0%
31-40	7	11.6%
41-50	22	36%
>50	32	52.4%
Total	61	100%

In the present study FNAC played a vital role for management of patients presenting with breast lumps. In carcinoma breast the sensitivity of FNAC was found to be 100%, with sensitivity being 99.18% for benign disorders. Of the 139 cases of benign breast diseases, 42 were managed conservatively, and 97 surgically. Surgical management included excision of breast lump, incision and drainage of breast abscess, excision of breast tissue (gynaecomastia and accessory breast). In our study, out of the 61 cases of carcinoma breast, 10 cases were treated by multimodality approach by neoadjuvant chemotherapy, radiotherapy and surgery (modified radical mastectomy), whereas the remaining 51 cases were treated with surgery, adjuvant chemotherapy, and radiotherapy.

## Discussion

The benign neoplastic and non-neoplastic conditions account for majority of the breast diseases. The data from patients reporting to the department of surgery of Guru Nanak Dev Hospital Amritsar has been collected to determine the disease prevalence in different age groups and report various other parameters associated with breast diseases. In the present study a total of 200 cases were examined clinically and pathologically. In present study, fibroadenoma formed 41.7% of all benign breast diseases and most patients presented between 11-20 years (32 cases) of age group followed by 21-30 years (22 cases) of age group. The result is consistent with Bagale<sup>2</sup> study which reported fibroadenoma as the most common lesion (44.5%) among age group ranged between 15-40 years of age group. Similar findings were reported by Kulkarni et al (62%)<sup>3</sup>, Amr et al (30.7%)<sup>4</sup> and Malik et al (41%)<sup>5</sup>. Aslam

M et al concluded that fibroadenoma is the most common lesion of benign breast disease 181(71.3%) and it occurs mostly in 2<sup>nd</sup> decade of life with a mean age of  $20.56 \pm 5.73$ .<sup>6</sup> Kapur in his study found this is a disease of early reproductive life; the peak incidence is between the ages of 15 and 35 years.<sup>7</sup>

Another study by Gupta showed that fibroadenoma accounted for 45% of the total patients studied and the most commonly affected age group was 20-30 years (38.75%).<sup>8</sup>

Out of the 100 female patients who were studied by Mima in 2013, 87 patients who presented with breast lumps and fibroadenoma, accounted for 48% of the cases, which was the highest number of patients.<sup>9</sup> Shashikala in his study reported that fibroadenoma was the most common breast lesion constituting 37 % of benign breast lesions.<sup>10</sup>

Second most common breast disease was fibrocystic disease accounting for 21.5% of benign breast lesions with maximum age incidence in the age group of 31-40 years in our study which is in accordance with Echejoh who observed maximum number of cases in 31-40 years.<sup>11</sup> Shashikala reported fibroadenosis accounting for 23 % of benign breast lesions.<sup>10</sup> Amr et al reported maximum incidence of fibrocystic disease in 31-35 years<sup>4</sup>. Naveen,(2013) noted fibrocystic disease as the second common benign breast diseases(BBD) after fibroadenoma accounting for 36%.<sup>12</sup> Kapur concluded that fibrocystic changes (FCCs) constitute the most frequent benign disorder of the breast and such changes generally affect premenopausal women between 20 and 50 years of age.<sup>7</sup> In his study out of 51 cases of Fibrocystic disease of breast,

peak incidence of 62.74% was found during 21-30 yrs with 32 cases occurring in third decade of life.<sup>7</sup> Mima showed fibrocystic diseases constituted 18% of total cases.<sup>9</sup>

Gupta concluded fibroadenosis accounted for 17.5% of all cases and mean age of presentation was 28.42 yrs.<sup>8</sup>

Inflammatory diseases of the breast formed 10.7% of benign breast diseases in our study and maximum age incidence found 21-40 years of age group. Our data is similar to that of Kulkarni et al who reported 8.7% incidence of inflammatory lesions<sup>3</sup>. Aslam M et al found in his study that inflammatory lesions accounted for 11.8% incidence.<sup>13</sup> Mima observed 12% incidence of breast abscess in 100 patient study.<sup>6</sup>

Kapur in his study observed breast abscess was occurring during 15-40 yrs with peak incidence of 75 % in 3rd decade of life.<sup>7</sup>

Granulomatous pathology constituted 8 % and were of age group between 31-40 years of age which are similar with the findings of Malik et al.<sup>5</sup> According to his study most of cases of granulomatous mastitis were in between 31-40 years of age.

In present study 2 cases (1.4%) of galactocele were reported out of total 200 cases of breast diseases. Same incidence was reported by Bagale<sup>2</sup> and Khanna S et al<sup>13</sup>, ie, 1.02% and 1.2% respectively. In our study, 2 cases were in between 21-30 years of age similar with study done by Khanna S et al.<sup>13</sup> Gynaecomastia was the most commonly encountered breast disease in males contributing 2 cases out of all benign breast diseases. In our study both patients were of 25 years of age. Shashikala V<sup>10</sup> reported 2.25% of incidence of gynaecomastia and Kulkarni et al reported it to be 2.84%.<sup>3</sup> In a study by Kapur, gynaecomastia was found during 15 - 20 yrs and 45 - 60 yrs with 12(46%) cases occurring during 2nd decade of life.

Carcinoma breast was reported maximum above the age of 50 years (32 cases) in this study followed by 41-50 years (22 cases) and it constituted 30.5% of all breast diseases. Sogi O<sup>14</sup> reported 282 cases of lump breast, 202 were benign and 80 cases of carcinoma breast (28.3%). Kapur concluded that the incidence of benign breast lesions begins to rise during the second decade of life and peaks in the fourth and fifth decades, as opposed to malignant diseases, for which the incidence continues to increase after menopause, although at a less rapid pace.<sup>7</sup>

Saha suggested that the most commonly affected age group by breast cancer is 35-50 years, and most of the patients are from post-menopausal age group.<sup>15</sup>

Nuzhat in his study, 39 (25.2%) patients were less than or equal to 40 years of age, 60 (38.7%) were more than 40 to 50 years and 56 (36.1%) were more than 50 years of age with the median age at diagnosis being 47 years.<sup>16</sup> Mehrdad et al from Iran in the year 2016 recorded data of 258 patients with breast cancer and reported that the mean age of the patients at diagnosis was 44.2 years (range: 25-71 years).<sup>17</sup>

## Summary

Although the majority of cases of breast disorders are diagnosed as benign, there is increasing trend in malignancy so every patient presenting with a lump in the breast should be diagnosed by FNAC and sonomammography to rule out the malignancy. In our study of 200 cases, benign diseases formed the bulk and constituted 69.5% of all breast diseases and 30.5% are diagnosed as malignant so no case of breast lump should be left undiagnosed. The incidence of benign breast diseases begins to rise in the 2nd decade and it peaks in the 4th or 5th decades whereas, the incidence of malignant lesions continue to rise after 50 years of age that is after menopause. Carcinoma breast comprised 30.5% of breast disorders and is on the rise and its incidence increases as the age advances. Most cases of carcinoma breast presented at an advanced stage with already lymph node spread and resulted in unfavourable prognosis.

Thus, our study has attempted to delineate the spectrum of breast diseases among patients of different age groups reporting to Guru Nanak Dev Hospital, Amritsar.

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**Conflict of interest:** None declared

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