International Surgery Journal
Bagul S et al. Int Surg J. 2024 Mar;11(3):392-397
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20240571

Original Research Article

Clinical spectrum study of female patients with benign breast diseases in surgery department of tertiary care centre

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Received: 29 December 2023
Revised: 05 February 2024
Accepted: 12 February 2024

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ABSTRACT

Background: Benign breast disorders are classified as congenital disorders, injury related inflammatory conditions infective conditions, aberration of normal differentiation and involution, duct ecstasies and congenital breast conditions such as inverted nipple etc. Aberration of normal differentiation and involution of breast consist of cystic nodularity, mastalgia, cysts and fibroadenoma.
Methods: Aim of the study is to study the co-relation of clinical, pathological and radiological parameters in benign breast diseases and study detail the different modes of presentations of benign breast disease respect to age, marital status, religion, clinical features, menstruation, presentation of lump, diagnostic modalities used.
Results: The 200 patients diagnosed with benign breast disease. Most of the cases belong to the age group of 20-29 years, fibroadenoma is the most common benign disorder in that age group followed by fibroadenosis. The presentation is breast lump without pain in most of the time.
Conclusions: Benign breast disease occupy majority of the total breast diseases. Majority of the benign breast diseases occur in the reproductive age group with fibroadenoma as the most common lesion. Lump is the most common presentation of all of the benign breast diseases.

Keywords: Breast lump, Fibroadenoma, Fibroadenosis

INTRODUCTION

Breast forms important feature of female anatomy in addition to having an integral part of female reproductive system. It is a dynamic organ undergoing physiological changes like developmental changes, cyclical changes, pregnancy changes, lactation and involution changes throughout the reproductive period of a woman. In fully developed non-lactating female breast, the epithelial component which comprises less than 10% of total volume is more significant pathologically since majority of lesion arises from this portion of breast. The breasts are composed of specialized epithelium and stroma that may give rise to both benign and malignant lesions. The pathogenesis of benign breast diseases involves disturbances in the breast physiology extending from an extreme of the normality to well defined disease process.[1,2]

Benign breast disease is one of the most common diseases in the female of any society. The most common symptoms are breast pain, lump or engorgement. Benign breast disease constitutes a heterogeneous group of lesions that include developmental abnormalities, inflammatory lesions, epithelial and stromal proliferative and benign neoplasms.[3]

The objective of the study is to correlate between clinical, pathological and radiological parameters of benign breast diseases and to study different modes of presentation.

METHODS

Study type

It was non-interventional, cross sectional observational study of patients who were detected to have benign breast disease.

Study place

Study conducted at government medical college, Aurangabad.

Study period

The study was conducted over a period of 2.5 years from November 2017 to March 2020

Selection criteria of patients

Patients with any benign breast disorders and willing to participate in the study.

Exclusion criteria

Patients with malignant breast diseases and patient who did not give consent for the study.

All the patients categorised according to age, diagnosis, clinical presentation and correlated them radiologically and histopathologically.

Ethical committee clearance was taken before commencing the study in the form of synopsis approval from Maharashtra university of health sciences.

Statistical analysis

All data was filled in Microsoft excel spreadsheet; student t test was used to find significance of study parameters on continuous scale between two groups on metric parameters. Chi-square test was used to find significance of study parameters on categorical scale between two/ more groups. Data analysis was done with help of SPSS software trial version 22.

RESULTS

We observed 200 patients diagnosed with benign breast disease. Result obtained analyzed and tabulated.

Table 1: Depicting distribution of study subjects according to age groups.

Age (In years)	N	Percentage (%)
12 to 19	02	1
20 to 29	90	45
30 to 39	83	41.5
40 to 49	21	10.5
>50	04	2
Total	200	100

The highest number of benign breast diseases were seen in the age group of 20-29.

Diagnosis of fibroadenoma predominates in age group 20-29 and fibroadenosis predominates in group 30-39.

The most common complaint was the breast lump followed by pain.

The most common clinical findings were size 1-3 cm with firm consistency.

The predominant diagnosis was fibroadenoma followed by fibroadenosis.

The predominant diagnosis was fibroadenoma followed by fibroadenosis confirmed radiologicaly and histopathologicaly.

Table 2: Depicting final diagnosis and age wise distribution of study subjects.

Age (In years)	Fibroadenoma	Fibroadenosis	Ductal ectasia	Breast abscess	Phylloids	Mastitis
12 to 19	02	00	00	00	00	00
20 to 29	51	22	05	05	00	07
30 to 39	31	40	05	01	03	03
40 to 49	17	00	00	00	04	00
>50	02	02	00	00	00	00

Table 3: Depicting clinical features of the study group.

Clinical features	N	Percentage (%)
Breast lump only	103	52
Breast lump with pain	66	33
Breast lump with nipple discharge	24	12
Breast pain only	10	05
Nipple discharge only	08	04

Table 4: Depicting various features of benign breast lump in study subjects.

Features	N	Percentage (%)
Size (cm)		
<1	47	26.25
1 to 3	105	58.65
> 3	27	15.05
Consistency		
Soft/cystic	42	23.46
Firm	107	59.77
Variable	30	16.75
Discharge		
Serous	22	68.75
Hemorrhagic	03	9.37
Postular	07	21.87

Table 5: Depicting diagnosis of benign breast diseases in study subjects.

Diagnosis	N	Percentage (%)
Fibroadenoma	103	51.5
Fibro adenosis	64	32
Ductal ectasia	10	5
Breast abscess	06	3
Phyllodes	7	3.5
Mastitis	10	5

Table 6: Depicting diagnosis of benign breast diseases in study subjects.

Diagnostic method	Fibroadenoma	Fibro adenosis	Ductal ectasia	Breast abscess	Phyllodes	Mastitis
Clinical diagnosis	101	60	08	5	5	10
USG/mammography	99	61	6	6	7	4
HPE	103	64	3	6	7	3

Table 7: Depicting treatment given to study subjects.

Diagnostic method	Fibroadenoma	Fibro adenosis	Ductal ectasia	Breast abscess	Phyllodes	Mastitis
Conservative	42	48	10	2	0	10
Surgical	61	16	0	4	7	0

Most of the patients were treated surgically.

Figure 1: Giant fibroadenoma.

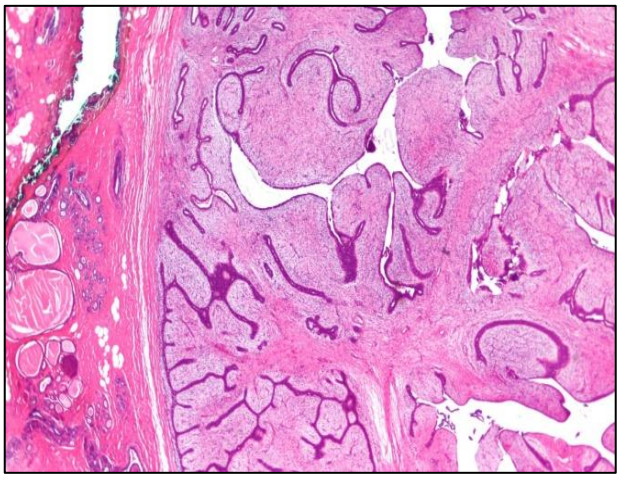

Figure 2: Histopathology of phylloids.

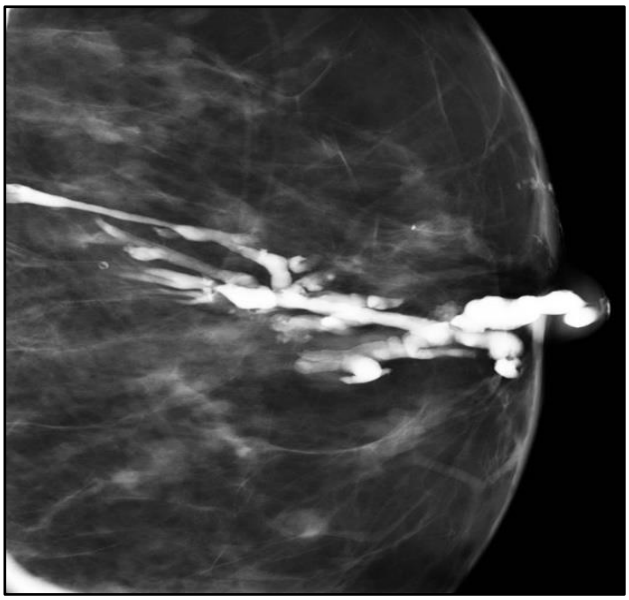

Figure 3: Duct ectasia on mammography.

DISCUSSION

In the present study we observed 200 patients diagnosed with benign breast disease.

Subjects were studied according to different age groups presenting with benign breast diseases which is highlighted in Table 1. In age group 12 to 19 were 02 (1%). In the age group 20 to 29 number of cases were 90 (45%). In age group 30 to 39 number of cases were 83 (41.5%) In age group 40 to 49 number of cases were 21 (10.5%) in age group above 50 years of age, there were 4 (2%) cases.

In the similar study Memon et al found out of them 500 (62.5%) were young females of 15-25 years of age.[4] Gupta et al 85% of all patients of benign breast disease fall in the reproductive age group of 15-40 years.[5] Majority (38.75%) of them belong to age group of 20-30 years with average age being 22.38 years. Shilpa Kumara et al found Out of 58 patients, maximum (23) was in the age group of 10-19 years, comprising 39.7%, followed by 16 patients in age group 20-29 years.[6] Only 5 (8.6%) patients were more than 40 years. Janaki et al found age wise distribution revealed most women between the age groups of 21-60 years.[7]

The presentation of different benign breast disease in different age groups which is depicted in Table 2 were studied in the age group of 12 to 19 there were 2 cases of Fibroadenoma. In the age group of 20 to 29, there were 51 cases of fibroadenoma, 22 cases of fibroadenosis, 5 cases of ductal ectasia, 5 cases breast abscess and 7 cases of mastitis. In the age group of 30 to 39 years there were 31 cases of fibrodadenoma, 40 of fibroadenosis, 5 of ductal ectasia, 1 of breast abscess, 3 of phylloids and 7 cases of mastitis. In the age group of 40 to 49, 17 cases of fibrodenoma and 4 cases of phylloids were present.

In the age group above 50 years, out of the 200 cases studied there were only 2 patients of fibroadenoma and 2 cases of fibroadenosis.

Shanker et al studied the final diagnosis and age wise distribution of BBDs and found that most of the benign breast disorders were found in the reproductive age group between 20 to 35 years of age.[8]

The mode of presentation of different benign breast disease were also studied which is mentioned in Table 3, only breast lump was present in 103 number of cases (52%). Breast lump with pain was present in 66 number of cases (33%). breast lump with nipple discharge was present in 24 number of cases (12 %). Breast pain only was present in 10 number of cases 05%). Only nipple discharge was present in 8 number of cases (4%).

In a study by Chauhan, the most common clinical presentation was lump in the breast. 67 patients (63.80%) presented with lump in the breast without any other complaint followed by 14 patients (13.33%) who complained of a lump with associated pain.[9]

In another study by Gupta et al the commonest complaint was pain in breast which was present in 53 patients (66.25%), out of which 27 had associated complaints like breast lump, nodularity and nipple discharge while 26 patients (32.5%) had complaint of breast pain (mastalgia) only.[5] The study at Kumar et al found amongst all patients, 23 i.e. 39.7% complained of pain in the breast while 35 i.e. 60.3% didn't have pain at the time of presentation.[6] Similar result were found in Kumar et al and Janaki et al.[7,10]

In the similar study by Kumar et al out of 425 patients, 181 (47.63%) had right sided breast involvement while 151 (39.73%) patients had left breast involvement whereas bilateral involvement was seen in 48 (12.63%) patients.[10] In a study conducted by Kumar et al, 35 out of 58 patients had lump in upper outer quadrant while 10 patients had lower outer quadrant lump, rest of the patients had lump extending to more than one quadrant of her breast including nipple-areolar complex.[6] Laxman et al studied 50 patients and found 34% cases had upper lateral quadrant fibroadenoma.[11] The 8% of cases had lower medial quadrant fibroadenoma, 26% patients had fibroadenoma in lower lateral quadrant, 20%, patients had fibroadenoma in upper medial quadrant.

Various characteristic features of benign breast lumps in study subjects were studied which is mentioned in Table 4. Regarding 47 cases (26.25%) were of less than 1cm, 105 cases (58.65%) were between 1 to 3 cm. >3 cm cases (15.05%) were present in 27. Regarding consistency of the lumps in the studied subjects, soft/cystic consistency was present in 42 (23.25%) Firm were present in 107 cases (59.77%). Lumps of variable consistency was present in 30 cases (16.75%). Regarding discharge serous was present in 22 cases (68.75%). Hemorrhagic were

present in 03 cases (9.37%). Pustular were present in 07 cases (21.87%).

In the similar study Kumar et al found that majority of the solitary fibroadenomas 84 (55.6%) cases had size <2 cm followed by 67 (44.3%) cases having size between 2-5 cm.[10] All the cases of giant fibroadenomas had size more than 5 cm as per definition while majority of multiple fibroadenomas 2 (66.66%) cases had size between 2-5 cm Kumar et al found consistency of 81% of lumps i.e. 47 was firm, 13.8% i.e. 8 were soft while 13 were hard in consistency.[6] Laxman et al found maximum patients (58%) had large fibroadenomas. Minimum cases (14%) had giant fibroadenomas.[11]

The various diagnosed benign breast diseases in study subjects are discussed in Table 5. Out 200 cases studied, 103(51.5%) patients had fibroadenoma, 64 (32%) were fibroadenosis, ductal ectasia was found in 10 (05%), Breast abscess was in 06 (03%) cases, 7 (3.5%) cases had phylloids and remaining 10 (5%) cases had mastitis.

Chauhan et al studied the distribution pattern of benign breast disease, the most common presentation was of fibroadenoma in 49 (46.66%) cases, followed by fibroadenosis which were 31 (29.52%).[9] Breast abscess cases were 07 (6.6%), duct ectasia 05 (4.76%), mastitis was present in 05 (4.76%) cases.

The diagnosis of benign breast disease in study subjects based on clinical, radiological and histopathological examination were studied which is highlighted in Table 5 and 6. Out of the 103 cases of fibroadenoma, 100% cases were accurately diagnosed histopathologically with 98% and 96% accuracy in clinical and radiological methods respectively in diagnosing it. Similarly, out of the 64 cases of fibroadenosis 100% cases were identified on the basis of histopathological examination with 95% cases identified radiologically and 93% cases through clinical examination. In case of ductal ectasia out of the 10 cases 80% cases were identified clinically followed by 60% identified radiologically and a mere 30% identified histopathologically. 100% accuracy of radiological and clinical parameters was present in diagnosing all of the 6 cases of breast abscess with 83% identified clinically. Similar observation was made in case of phylloids tumor were all the 7 cases were (100% identified based on radiological and pathological methods and 71% cases were identified clinically. Out of the 10 studied cases of mastitis, there is 100% accuracy in identifying the pathology clinically with 40% and 30% accuracy radiologically and clinically.

Study by Samal et al showed that there is 100% accuracy in clinical diagnosis of breast abscess with 96% accuracy in diagnosing fibroadenoma and 89% in case of mastalgia.[12]

Out of the 200 patients, 172 patients underwent USG and remaining 18 patients who aged >40 years underwent mammography. The accuracy rate of USG in diagnosing fibroadenoma, mastagia and phylloids were 83%, 67% and 50% respectively. Whereas mammography showed 83% accuracy in detecting breast abscess, 90% accuracy for fibroadenoma and 50% accuracy in case of mastalgia.

The accuracy of FNAC was 100% in identifying fibrodenoma and ductal papilloma.

In a study conducted by Sukanya et al, which was based on the clinico pathological co-relation of benign breast diseases.[13] Out of the 60 patients studied, the sensitivity of clinical diagnosis in diagnosing fibroadenoma was 97% and in fibroadenosis was 100%. Two cases of phylloids tumor were diagnosed by FNAC, 1 amongst these 2 cases were diagnosed as carcinoma breast and the other was diagnosed as giant fibroadenoma. The overall sensitivity of clinical diagnosis in detecting BBD's is 97.9%.

Ortiz et al studied the clinical, pathological and radiological co relation in benign breast diseases, 698 breast ultrasounds in women younger 40 years, 52% ultrasound normal and 48% were reported with benign breast pathology: fibroadenomas 38%, cyst 27%, dilated ducts 24%, benign nodule 4%, mastitis 3%, ectasia 2%, and abscess 2%. Out of the 265 cases of fibroadenoma, the clinical examination versus ultrasound correlation was 50%.[14]

The different modes of treatment given to study subjects were studied which is mentioned in Table 7. Conservative management was done in 42 cases of fibroadenoma, 48 cases in fibroadenosis, 10 cases of ductal ectasia, 2 cases of breast abscess and all of the 10 cases of mastitis.

Surgical management was done in 61 cases of fibrodenoma, 16 cases of fibroadenosis, 4 cases of breast abscess and all of the 7 cases of phylloides. Conservative treatment in the form of counselling and medical line of management was advised more of the younger age group with <2 cm size of lumps with no symptoms, whereas surgical line of management was opted for patients having breast lump having >2 cm size with symptoms like pain and discomfort. Enucleation was the surgical line of management opted since cryoablation and USG guided vaccum evacuation was not available in the studied institute.

Shanker et al in a similar study mentions that out the 50 studied subjects, excision was performed in 36 (72%) cases, I and D in 6 (12%) cases, wide excision was performed in 3 cases (6%).[8] Conservative management was done in 5 (10%) patients. Amongst them 24 cases (68%) cases of fibroadenoma underwent excision, all of the breast abscess underwent I and D, all cases of phylloids underwent excision and all of the duct ectasia cases were managed conservatively.

Limitations

The study was only a non-interventional, observational cohort study. The limited sample size hampered the accuracy of presentation. Since it is a study conducted in tertiary institution, we lack the data of rural areas where awareness is a big issue like a country in India.

CONCLUSION

Benign breast disease occupies majority of the total breast diseases. Majority of the BBDs occur in the reproductive age group with Fibroadenoma as the most common lesion. Lump is the most common presentation of all of the benign breast disease. With clinic-radiological-histopathological co-relational parameters used in the diagnosis of benign breast disease almost equal co-relation of clinical and histopathology examination was found in case of Fibroadenoma. Near equal co-relation of all of the 3 parameters is found in fibroadenosis and breast abscess. Ductal ectasia and mastitis were diagnosed more on the basis of clinical basis as compared to the rest of the parameters.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Harris JR, Lippman ME, Osborne CK, Morrow M. Diseases of the Breast. Lippincott Williams and Wilkins. 2012.
2. Kumar V, Abbas AK, Fausto N, Aster JC. Robbins and Cotran Pathologic Basis of Disease. 8th ed. Philadelphia: Saunders Elsevier. 2010;1120-31.
3. Mohan H. Text book of pathology, 5th Ed., The Breast. Jaypee Publications. 2006;780-90.
4. Memon A, Parveen S, Sangrasi AK, Malik AM, Laghari A, Altaf K et al. Clinical Presentation and Prolactin Level of ANDI (Aberration of Normal Development and Involution) Patients of Breast. World J Med Sci. 2007;2(2):83-7.
5. Gupta A, Gupta AK, Goyal R, Sharma K. A Study of Clinical Profile of Benign Breast Diseases Presenting at a Tertiary Care Centre in Central India. Sch J App Med Sci. 2015;3(2C):695-700.
6. Kumari S, Kumar A, Khadka S. Characteristics of surgically treated benign breast disease. Int J Surg Sci. 2017;1(1):30-32.
7. Janaki KL, Kannan NS, Palaniappan M, Nandi P. Profile of breast diseases in post pubertal women assessed by clinical breast examination-a community-based study in rural Pondicherry. J Clin Diagnostic Res. 2016;10(2):PC07.
8. Shanker MR, Reddy T, Prajwal S. Benign Breast Disease among the Rural Population: A Clinical Study. J Surg. 2017;3(1):30-7.
9. Chauhan DS, Jain N. Profile of benign breast disease in Uttarakhand. J Med Sci Clin Res. 2024;12(02):401-25.
10. Kumar K, Ray K, Harode S, Wagh DD. The Pattern of Benign Breast Diseases in Rural Hospital in India. East Central Afr J Surg. 2010;15(2):59-64.
11. Laxman S, Sangolgi P, Jabshetty S, Bhavikatti A, Uttam A. Clinical profile of patients with fibroadenoma of breast. Int Surg J Int Surg J. 2018;5(3):1057-61.
12. Samal S, Swain PK, Pattnayak S. Clinical, pathological and radiological correlative study of benign breast diseases in a tertiary care hospital. Int Surg J. 2019;6:2428-32.
13. Sukanya M, Anil R, Vikas S. Clinicopathological correlation of benign breast diseases-An observational study. J Anesthesia Surg. 2017;2(1):74-80.
14. Ortiz MB, Hernández DB, Mateos RC, Reynaga García FJ. Benign breast diseases: clinical, radiological and pathological correlation. Ginecol Obstet Mex. 2002:70:613-8.

Cite this article as: Bagul S, Shaikh JM, Das S, Jadhav RV. Clinical spectrum study of female patients with benign breast diseases in surgery department of tertiary care centre. Int Surg J 2024;11:392-7.