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Original Research Article

Profile of benign breast diseases in Kashmiri women: a prospective study

Mumtazdin Wani, Shabir Ahmad Mir*, Mohammad Hanief Dar

Department of Surgery, Government Medical College, Srinagar, Jammu and Kashmir, India

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***Correspondence:**
Dr. Shabir Ahmad Mir,
E-mail: drshabirmir@gmail.com

ABSTRACT

Background: Though benign breast diseases are very common, not many studies have focussed on this entity. In Kashmir valley, no major study has been undertaken before, to look into the profile of the benign breast diseases in women.
Methods: This prospective study was conducted in the Postgraduate Department of General Surgery of SMHS Hospital from October 2012 to September 2014. The patients with features of benign breast diseases were subjected to detailed history, clinical examination and investigations. Analysis was done using this data.
Results: 80% of the benign breast lesions presented in the second and third decades of life. Mean age was 24.46 years. Most common benign breast lesion was fibroadenoma. Lump in the breast was the predominant symptom. Duration of symptoms mostly ranged from 1 to 6 months. There was a slight preponderance of lesions in the right breast. Most of lesions presented in upper outer quadrant. 81.39% of the patients had only a solitary lump.76.74% of lumps had a size of 2 to 5cm. Clinicopathological correlation in case of fibroadenoma, showed 60% sensitivity, 75% specificity, PPV=85.71% and NPV=42.85%. Cytohistological correlation in case of fibroadenoma, showed 85% sensitivity, 87.5% specificity, PPV=94.4% and NPV=70%. 38 cases (38%) were managed conservatively and 62 cases (62%) were managed surgically.
Conclusions: Results grossly similar to other parts of the word were obtained. Fibroadenoma was the most common benign lesion encountered followed by fibroadenosis and breast abscess. Majority of breast lumps were painless. Conservative approach for fibroadenoma is acceptable option in the adolescents.

Keywords: Benign breast disease, Fibroadenoma, Fibroadenosis, Kashmiri women

INTRODUCTION

Benign breast diseases are common cause of breast problems, upto 30% of women will suffer from benign breast diseases, requiring treatment at sometimes in their lives.[1] Breast problems can present themselves in a number of ways like breast pain, nipple discharge, cystic lesions and more commonly a lump.[2] Breast diseases are more prevalent among females as compared to males and the pattern of breast diseases and their etiology varies among different countries and ethnic groups.[3] Benign breast diseases are common cause of breast problems, upto 30% of women will suffer from benign breast diseases, requiring treatment at sometimes in their lives, but not many studies have focussed on this entity.[1]

In Kashmir valley, no major study has been undertaken before, to look into the profile of the benign breast diseases in the women. So, on this background, the present study was undertaken in a centrally located, tertiary care hospital of the Kashmir valley, to look for the clinicopathological profile of benign breast diseases in Kashmiri women.

METHODS

This prospective study was conducted in the Postgraduate Department of General Surgery of SMHS Hospital over a period of two years, from Oct. 2012 to Sep.2014. After initial evaluation of the patients in the surgical OPD of SMHS Hospital, the patients with features suggestive of Benign Breast Diseases were subjected to a detailed history, clinical examination and investigations, as per the preformed proforma.

RESULTS

This study consisted of 100 cases of benign breast diseases which were studied in detail for a period of two years (October 2012 to September 2014). On the whole, about 80% of the benign breast lesions presented in the second and third decades of life. The number of the lesions in the third decade (48%) was significantly higher than that of the other age groups. There were only 04 patients (04%) whose age was more than 40 years, and 31 patients (31%) were in the age group of 11-20 years. The youngest patient in this study was a female aged 16 years with fibroadenoma and the oldest patient was a female aged 47 years who presented with a lump occupying all the quadrants (Cystosarcoma phyllodes). The majority of the fibroadenomas (83.3%) presented in the age group of 11-30 years. However, almost all the patients with fibroadenosis presented a decade later, between 20 and 40 years of the age. Regarding the cystosarcoma phyllodes, it presented in the 4th and 5th decades of life, whereas duct papilloma and galactocele were noticed in the third decade. The mean age of the patients with benign breast disease in this study was 24.46 years.

The most common benign breast lesion in this study was fibroadenoma (Figures 1-3) accounting for 60% of the cases, followed by the next common condition fibroadenosis, accounting for 16% of these cases and the other less common conditions including breast abscess 6%, cystosarcoma phyllodes 4%, simple cyst 4%, Intraducatal papillom 2% and Galactocele 2%. History of the use of oral contraceptive pills could be obtained only from 2% of the patients. Patients had oral contraceptive pills in the past and none of the patients in the study was on the pills at the time of presentation. Details regarding parity and menstruation were available in most of the patients. Menstrual irregularity was present in 18% of the patients. Most of the patients also complained of the premenstrual breast pain. The type of benign lumps were however related neither to the parity nor to the menstrual disturbances.

The lump in the breast was the predominant symptom (80%); fourteen patients (14%) did not notice any lump but complained of nodularity and had fibroadenosis. Pain was the next common symptom and was present in 30 cases (30%) of the patients. Majority of the patients with fibroadenosis (87.5%) complained of pain, whereas only 10% of the patients with fibroadenoma had pain.

It was found that patients with fast growing lumps presented earliest, within 2 months of the onset of symptoms.

Nipple discharge was present in only 6 out of 100 cases (6%). Serous discharge was observed in 2 case of fibroadenosis and 2 cases of ductal ectasia, and milky discharge was present in 2 cases of galactocele.

There was a slight preponderance of lesions in the right breast as compared to the left (53% of the lesions were located in the right breast where as 31% were situated in the left breast and 16% bilaterally).

The quadrant wise distribution of the lumps showed an excess of lesions over the upper half of the breast, especially the upper outer quadrant, 44.68% of the lumps were found to occupy this quadrant, while 10.63%, 17.02% and 4.25% were located in the upper inner, lower outer and lower inner quadrants respectively. Of the remainder, 10.63% lesions were found in the sub-areolar region and 13.63% occupied more than one quadrant. Of the patients with lumps, 81.39% of the patients had only a solitary lump. The others included 16.28% patients with two lumps, and 2.32% patients with three lumps.

Majority of the lumps 76.74% had a size of 2 to 5 cms. The size of the lump was largest in a case of benign cystosarcoma phyllodes (20x12cm) but the largest lump in the fibroadenoma group was seen in a 16 years old girl with a size 8x5 cms. Among the lumps, all were firm in consistency except breast abscess, simple cysts and galactocele.

Table 1: Clinicopathological correlation for fibroadenoma (n*=56).

Clinical Diagnosis	Fibroadenoma as histopathological examination	Fibroadenoma not as histopathological examination	Total	Concordance (%)
Positive	24	4	28	
Negative	16	12	28	64.29
Total	40	16	56	

*correlation was done using 56 histopathologically examined cases.

Table 2: Clinical diagnosis when compared to histopathology for fibroadenoma.

Variable	Value	95% confidence interval
Sensitivity	60%	(43.31%, 75.13%)
Specificity	75%	(47.65%, 92.73%)
Positive predictive value	85.71%	(67.30%, 95.97%)
Negative predictive value	42.85%	(24.43%, 62.85%)

Clinical diagnosis for fibroadenoma when compared with histopathology had:

- Sensitivity=60%
- Specificity=75%
- Positive predictive value=85.71%
- Negative predictive value=42.85%
- Concordance: 64.29%
- P-value=0.038 (significant) as shown in Table 1 and 2.

Fine needle aspiration cytology (FNAC) was done for all the patients, and histopathological examination was done for 56 patients from operated group, and tabulated as shown in Table 3 and 4.

FNAC for Fibroadeoma when compared to histopathology had:

- Sensitivity=85%
- Specificity=87.5%
- Positive predictive value=94.4%
- Negative predictive value=70%
- Concordance=85.71%
- P-value<0.001 (significant).

Table 3: Cytohistological correlation for fibroadenoma (n=56).**

FNAC	Consistent with fibroadenoma as histopathological diagnosis	Inconsistent with fibroadenoma as histopathological diagnosis	Total	Concordance (%)
Positive	34	2	36	
Negative	6	14	20	85.71
Total	40	16	56	

**correlation was done using 56 histopathologically examined cases.

Table 4: Cytological diagnosis when compared to histopathology for fibroadenoma.

Variable	Value	95% confidence interval
Sensitivity	85%	(70.15%, 94.29%)
Specificity	87.5%	(61.65%, 98.45%)
Positive predictive value	94.4%	(81.35%, 99.32%)
Negative predictive value	70%	(45.76%, 88.11%)

Table 5: Clinicopathological correlation for fibroadenosis (n*=56).**

Clinical diagnosis	Consistent with fibroadenosis as histopathological diagnosis	Inconsistent with fibroadenosis as histopathological diagnosis	Total	Concordance (%)
Positive	4	10	14	
Negative	0	42	42	82.14%
Total	4	52	56	

***correlation was done using 56 histopathologically examined cases.

Clinical diagnosis for fibroadenosis (Table 5):

- Sensitivity=100%
- Specificity=80.77%
- Concordance=82.14%.

The sensitivity of clinical diagnosis was 100% in cases of Cystosarcoma phyllodes, Galactocele and Traumatic fat necrosis.

In this study of 100 cases of benign breast diseases 38 cases (38%) were managed conservatively, out of which, 20 cases were fibroadenomas, 12 cases were fibroadenosis, 04 cases were simple cysts and 02 cases were ductal ectasias. Selected cases of fibroadenoma of 2-3 cms size were reassured and asked for regular follow-up. Conservative management included reassurance; dietic changes like low fat, high fiber, vegetarian type diet; and a reduction in caffeine intake.

These patients were put on a coarse of capsule vitamin-E and C preparation for 3 months, supplementation of evening primrose oil (orally or locally) once daily and application of hot compresses to the breast and massaging the breast with castor oil (Giuliano). No hormonal therapy was administered in any of these cases.

Figure 1: Fibro adenoma in left upper inner quadrant.

Out of 100 cases in this study, 62 cases (62%) were managed surgically, 52 cases underwent excision, 04 underwent simple mastectomy and in 6 patients I/D (incision drainage) was done. Simple mastectomy was done to treat 04 cases of huge cystosarcoma phyllodes and I/D was done for 06 cases of breast abscess. In two cases of galactocele aspiration was tried initially, but in one case refilling occurred despite repeated aspirations and another case could not be aspirated, hence both cases needed excision finally.

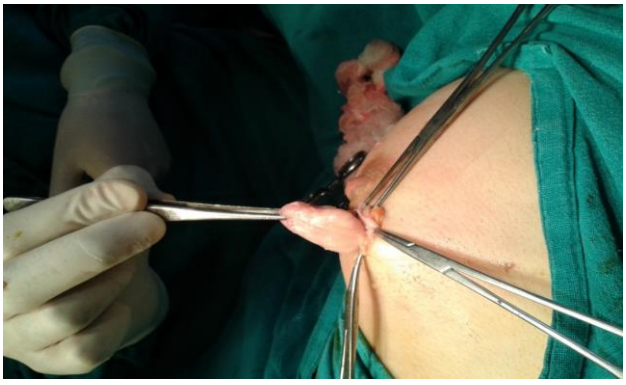

Photo 2: Intra-operative photograph showing excision of fibroadenoma.

Follow-up

A total of 44 cases were available for follow-up, 26 from conservatively managed group and 18 from surgically managed group of patients. The follow-up period ranged from 1 month to 24 months, on monthly basis for 3 months and once in 3 months for upto 24th month. None of the patients in the present study gave any history of reduction in size or disappearance of breast lump. However, 20 cases of fibroadenoma treated conservatively in this study showed no progression in size of the lump. There was no recurrence of fibroadenoma in the operated cases in our study. There was no recurrence in the simple cysts which have been aspirated.

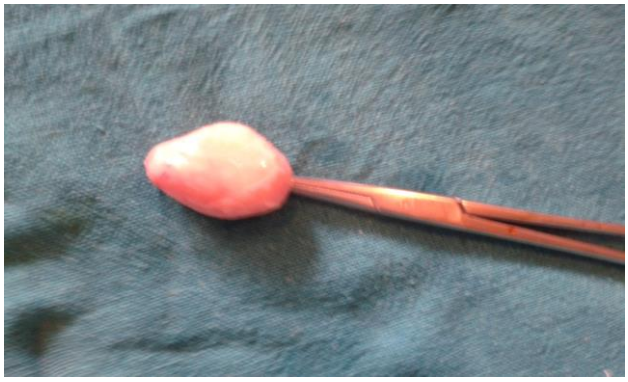

Figure 3: Showing excised fibroadenoma.

DISCUSSION

This study consisted of total of 100 cases of BBD (benign breast diseases), studied over 2 years period from October 2012 to September 2014. The age of the youngest patient in this study was 16 years and that of the oldest was 47 years. In the current study 48% of the lesions occurred in the third decade of life, whereas 31% and 17% presented in the second and fourth decades respectively. Gupta JC et al study shows 85% of the patients were in the age group of twelve to forty years.[4] Decholnoky T reported a similar age distribution.[5]

In present study, 83.3% fibroadenomas were present in the age group of 11-30 years. Rangabhashyam N et al in the Madras Journal reported the corresponding figure as 82%.[6] Haagensen CD reported the corresponding figure as 70%.[7] Almost all the patient with fibroadenosis were between the ages of 20 and 40 years, being a decade later compared to fibroadenoma. There were 16% cases of fibroadenosis in this study. This figure correlated with Rangabhashyam N et al as 14.2%.[6] Regarding benign cystosarcoma phyllodes, they presented at 31 to 49 years. Haagensen CD found 60% of his patient to be aged between third and fifth decade of life.[7]

Fibroadenoma (60%) was the commonest BBD encountered while fibroadenosis constituted 16% of the patients. According to Gupta JC et al the incidence of fibroadenoma is 64% and that of fibroadenosis is 22%.[4] According to Rangabhashyam N et al the incidence of fibroadenoma is 56.7% and that of fibroadenosis is 14.2%.[6] Oluwole SF et al reported similar figures in American blacks.[8]

The extremely low prevalence i.e. 26% of use of oral pills in the present study does not permit any meaningful

conclusion about their association with benign breast diseases.

The commonest type of presentation of BBD was lump in the breast, constituting 80% in this study. Second most common complaint was pain (30%). According to Haagensen CD lump was common type of presentation.[7] Decholnoky's T noted pain in 33% of his patients.[5] Mastalgia was most common in the age groups of 21-30 and 31-40 years. Cyclical mastalgia was present in 66.6% and non-cyclical mastalgia in 33.3% of the patients complaining mastalgia. These results are comparable with the study by Katiyar SK et al, who found that most frequent age group complaining of the mastalgia was 26 to 45 years.[9] They also found that among the patients of mastalgia, cyclical type was present in 63.75% of the cases whereas noncyclical mastalgia was present in 30% of the cases.

In the present study 76% of the patients had symptoms of less than 1year duration, 14% had symptoms of less than one month duration, and 24% had symptoms of more than 1 year duration. The duration ranged from 10 days to 4 years. These figures are in agreement with Decholonoky T et al study.[5]

There was a mild preponderance of lesions in the right breast as compared to the left in this study. Oluwole SF series shows marginal elevation of the lesion in the right side.[8]

Upper outer quadrant was the commonest site of distribution of lumps (44.68%) when compared to the other quadrants. Decholonky T noted that 50% of the lumps in his study were in this quadrant of the breast.[5] Oluwole SF et al showed 60% of the lumps at this site.[8] Multiple lumps were present in 18.6% of the patients in this study. Geschitcekter CF et al reported 17% in his study.[10]

Majority of lumps (76.74%) in the present study measured 2 to 5 cms in size. Decholnoky T et al study shows that 57% of the benign lumps were less than 2cm.[5] Haagensen emphasized that 28% of his cases were less than 5cm.[7]

Clinicopathological correlation in case of fibroadenoma, showed 60% sensitivity, 75% specificity, PPV=85.71% and NPV=42.85%. Cytohistological correlation in case of fibroadenoma, showed 85% sensitivity,87.5% specificity, PPV=94.4% and NPV=70%. According to Lopez-Ferrer P et al cytohistological agreement was present in 287 of the 362 cytodiagnosis.[11] Lack of correlation was observed in 75 cases. The sensitivity of the cytologic diagnosis of fibroadenoma was 86.9% with PPV 79.3%. The specificity of the cytologic diagnosis of fibroadenoma reaches 93.8% with NPV=96.3%.

In this study of 100 cases of BBD, 38 cases were managed conservatively, out of which 20 patients were having fibroadenoma, 12 patients were having fibroadenosis and 04 cases were of simple cysts and 2 patients of ductal ectasias.

According to Larsen TK et al fibroadenomas in adolescents can safely be treated conservatively.[12] However for adult women, triple test is a prerequisite for conservative treatment. Houssami N et al accepted that conservative approach is safe and acceptable, provided the result of an adequate triple test is both negative for cancer and consistent with a fibroadenoma.[13]

62 cases of BBD underwent surgical intervention. Majority of the benign lumps underwent simple excision of the lump. Lumps occupying all the quadrants of the breast (Cystosarcoma phyllodes) underwent simple mastectomy. The patients of breast abscess underwent I/D (Incision Drainage). These treatment modalities are in agreement with accepted principles of Haagensen series.[7]

Follow-up A total of 44 cases were available for follow-up, 26 of conservatively managed patients and 18 of surgically managed patients. The follow up period ranged from 1 month to 24 months. None of the patient in the present study gave any history of reduction in size or disappearance of breast lump. However 20 cases of fibroadenoma treated conservatively in this study showed no progression in size of the lump. This is in contrast to Wilkinson who noted spontaneous resolution of fibroadenoma in 16% of patients.[14] There was no recurrence of fibroadenoma in operated cases in our series. In contrast, Haagensen's series noted recurrence of 16% in his study.[7] Retrospective study from Oluwale SF et al recommended observation of fibroadenoma in teenagers, as upto 10% may resolve spontaneously and another 10% may develop multiple lumps necessitating repeat surgery.[8] None of the patients in our study, had any regression of lumps. Carty NJ et al study on management of fibroadenoma, showed in their 5 years of follow-up 52% have reduction in size, 16% are unchanged in size and in 32% have grown in size.[15] No patient has developed a carcinoma at the site of the presumed fibroadenoma. The patient with benign cystosarcoma phyllodes could not be followed up. Chua CL et al reported a recurrence of 15.8% in his study.[16]

CONCLUSION

BBD occupy majority of total breast diseases. This study of 100 cases includes the clinical profile and management of BBD. Fibroadenoma was the most common benign lesion encountered (60%) followed by fibroadenosis (16%) and breast abscess (6%). Fibroadenoma presented most often in the second and third decade while fibroadenosis presented a decade later. Lump in the breast was the commonest presentation of BBD, mastalgia was the second commonest symptom of BBD. Majority of BBD presented as lump ranging from 2-5cm in size and were mostly located in the upper outer quadrant. Maximum number of BBD occurred in the age

group of 21-30 years. Mean age of the patients with BBD was 24.46 years. Majority of breast lumps were painless to present with. Fibroadenomas usually presented as unilateral solitary lump, but, multiple fibroadenomas in single breast and fibroadenomas in both breasts were also found. Diseases like Cystosarcoma phyllodes, ductal ectasia, and lipoma of axillary tail are rare. Fine needle aspiration cytology is the sensitive, simple and cost effective investigation in benign breast diseases. Clinical diagnosis and FNAC have good sensitivity and specificity in diagnosing fibroadenomas, so they can minimise the need of more invasive excision biopsy for histopathology. Fibroadenoma remains a diagnostic challenge. A considerable amount of benign breast lesions can mimic fibroadenoma on cytology, and such diagnostic categories as "fibroadenomatous lesion" or "consistent with fibroadenoma" are associated with low diagnostic accuracy. While the cytological requisites for entering a program of conservative management of fibroadenoma are established, it seems that the strict diagnostic criteria should be applied even at the expense of diminishing sensitivity. There is increasing evidence that conservative approach for fibroadenoma is acceptable option in the adolescents. Patients who choose conservative management need to be informed about the limitation of the test and must be assessed properly if there are symptomatic and the clinical changes. Hence the fibroadenoma in adolescence can be treated conservatively, however, in an adult woman assessment by triple test is a prerequisite for conservative management. Cytological study is useful in confirmation of diagnosis of benign lesion of the breast. It also helps in the conservative management of small lumps and to avoid unnecessary surgical intervention. Regular self-palpation and awareness about breast diseases can help in early detection of breast diseases. In essence, clinicopathological profile of benign breast diseases in Kashmiri women is not different from that in the most parts of the world. There is need for furthermore studies of longer duration on BBD to evaluate the minute details of various aspects of BBD in Kashmiri women and to reach strong conclusions.

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REFERENCES

1. Kumar M, 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.
2. Vaidyanathan L, Bernard K, Elnicki DM. Benign breast disease: When to treat, when to reassure, when to refer. Cleveland Clin J Medi. 2002;69(5):425-32.
3. Siddiqui M, Kayoni NI, Gill M, Parvez S, Aziz S, Setna Z, et al. Breast diseases: a histopathological analysis of 3279 cases as a tertiary care centre in Pakistan. J Pak Med Assoc. 2003;53(3):94-7.
4. Gupta JC. Breast lumps in Jabalpur area- Review of 1104 cases. Indian J Surg. 1983;45:268.
5. Decholnoky T. Benign tumors of the breast. Arch Surg. 1937;38:79.
6. Rangbhashyam N, Gnanaprakasam D, Krishnaraj B. Spectrum of benign breast lesion. Madras J Royal Coll Surg. 1983;28:369.
7. Haagensen CD. Disease of the breast. W.B. Saunders, 3rd edition, 1986;146:267-283, 574.
8. Oluwole SF, Freeman HP. Analysis of benign breast disease lesions in blacks. Am J Surg. 1979;137:786-9.
9. Katiyar SK, Nigam SK, Omar PK. Clinocopathological profile of Mastalgia in an around Kanpur. J Evol Med Dent Sci. 2012;1(4):569.
10. Geschitcekter CF. Diseases of the breast. J.B. Lippincott, Philadelphia, 2nd edition, 1948.
11. López-Ferrer P, Jimenez-Heffernan JA, Vicandi B, Ortega L, Viguer JM. Fine needle aspiration cytology of breast fibroadenoma. Acta cytologica. 1999;43(4):579-86.
12. Larsen TK, Faurschou JP, Bak M. Fibroadenoma of the breast- modern strategy of treatment. Ugeskr Laeger. 2003;165(19):1979-83.
13. Haussami N, Cheung MN, Dixon JM. Fibroadenoma of the breast. Med J Aust. 2001;174(4):185-8.
14. Wilkinson S, Anderson J. Fibroadenoma of the breast: A follow up of conservative management. Br J Surg. 1985;72:838.
15. Carty NJ, Carter C, Rubin C, Ravichandran D, Royle GT, Taylor I. Management of fibroadenoma of the breast. Ann R Coll Surg Engl. 1995;77(2):127-30.
16. Chua CL, Thomas A, Ng BK. Cystosarcoma phyllodes: a review of surgical options. Surgery. 1989;105(2 Pt 1):141-7.

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