

A Study on Clinical Evaluation and Management Modalities in Benign Breast Diseases

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ABSTRACT

BACKGROUND

Benign breast diseases (BBDs) are a common cause of breast problems in up to 30 % of women. The pathogenesis of BBD involves disturbances in the breast physiology. There is a necessity for thorough comprehensive, prompt diagnosis and management of the benign conditions to reduce the physical and psychological illness of the patients who are anxious about the possibility of the disease being a malignant one.

METHODS

This was a prospective study conducted in the Department of Surgical Oncology, GSL medical college from October 2016 to July 2018. Females presenting with breast lump, confirmed with fine needle aspiration cytology (FNAC), aged between 12 – 55 years and fit for surgery were included in the study. Those who did not submit the informed consent were excluded. Statistical analysis was performed by SPSS version-21 and MS Excel 2013.

RESULTS

Most (74 %) of the patients were between 20 and 40 years of age, 56 % were diagnosed to be fibroadenoma. In the study group, 82 % (41) participants with BBD were married. The most common presenting complaint in the study group was lump (50 %) in the breast followed by lump associated with pain (28 %). Patients with fibroadenoma mass had well defined features.

CONCLUSIONS

Lump was the most common clinical presentation followed by lump with pain. Based on the FNAC report, decision is made for management. Comprehensive and prompt preoperative diagnosis and management of the benign conditions is necessary to reduce the physical and psychological burden on the patients who are anxious about the possibility of malignancy.

KEYWORDS

Breast, Participants, Study, Age

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BACKGROUND

Benign breast diseases are a common cause of breast problems, in up to 30 % of women. ² Breast is a complex organ, constantly undergoing changes because of various hormonal influences. The breasts form a secondary sexual feature of females and are the source of nutrition to the neonates, present in a rudimentary form in males.¹

"Breast is a dynamic structure, which undergoes changes throughout woman's reproductive life.² The pathogenesis of benign breast diseases involves disturbances in the breast physiology extending from an extreme of normality to well defined disease process. Hormones are required for growth of breast, secretory differentiation, lactogenesis and galactopoiesis.

As breast is constantly undergoing changes because of various hormonal influences, there is a lot of confusion in differentiating between normality and pathology. Some of the diets which include methylxanthines like tea and coffee are the existing cause of BBD.

The components of breast are specialised epithelium and stroma, that may give rise to both benign and malignant lesions.³ The main problem from a woman's point of view is fear that such a lump may be a cancer.⁴ Benign conditions of the breast are usually neglected in comparison to cancer, despite the fact that only one out of ten patients presenting to a breast clinic suffers from cancer. Until 1970s, reported studies were directed largely towards a possible relationship to cancer, rather than towards the basic processes of underlying benign conditions.⁵ In recent years, there has been increasing interest in BBD as they occupy the majority of burden in breast diseases.

There is a question of pre-malignant disorders which imply an increased risk of breast cancer. Increasing understanding of these conditions may prove important in understanding the pathogenesis of breast cancer and defining the high risk groups in whom regular surveillance may be beneficial.⁶ Clinicians evaluating women with breast complaints should provide a comprehensive, efficient and timely consultation, so that anxiety can be relieved.⁷ Surgeons require in depth understanding of benign breast disorders so that clear explanation may be given to affected women, appropriate treatment instituted and unnecessary long term follow up avoided.⁸

With the use of imaging of the breast and the extensive use of needle biopsies, the diagnosis of benign breast diseases can be accomplished without surgery in majority of patients. It is important for pathologists, radiologists, and oncologists to recognise benign lesions, both to distinguish them from insitu and invasive breast cancer and to assess a patient's risk of developing breast cancer, so that the most appropriate treatment modality for each case can be established.⁹ There is an increased incidence of malignant conditions in the breast. Hence, there is a necessity for thorough comprehensive and prompt diagnosis and management of the benign conditions to reduce the physical and psychological illness of the patients who are anxious about the possibility of the disease being a malignant one.

METHODS

This was a prospective study conducted in the Department of Surgical Oncology, GSL Medical College. Study was conducted between October 2016 to July 2018. Individuals who presented with clinical picture suggestive of benign breast disease were considered. All the patients who satisfied the inclusion criteria were considered in this study.

Females presenting with breast lump, confirmed with FNAC, aged between 12 – 55 years and those were fit for surgery were included. Those who didn't submit the informed consent were excluded. Study protocol was approved by the institutional ethics committee.

Initially the individuals were diagnosed using the standard clinical examination protocol. Various study variables such as socio-economic variables, anthropometric measurements, haemoglobin and so on were collected. Other investigations such as mammogram, ultrasonography, FNAC were also considered to recruit the case. Based on provisional and early tissue diagnosis, patients were subjected to surgery which was usually excision or incision and drainage as case required. Cases are again analysed based on operative findings and histopathological findings.

Statistical Analysis

Statistical analysis was performed by SPSS version-21 and MS Excel 2013. Results were presented in percentages, proportion, mean, standard deviation.

RESULTS

The age distribution of patients with benign breast disease in this study group shows that most (74 %) of the patients were between 20 – 40 years of age. Among them 24 % belonged to 30 – 34 years age group (Table 1). This study had only 4 % of patients above 45 years and 10 % of patients below 19 years of age (Table 1). The mean age was found to be 30 years.

When the frequency of the BBD is analysed, 56 % were diagnosed to be fibroadenoma, 26 % fibroadenosis / cystic, 6 % were breast abscess and 4 % each were fibroadenosis + cystic disease, phyllodes tumour, periductal mastitis, respectively. Most of the patients presented with fibroadenoma and fibrocystic disease / fibroadenosis in the study group (Table 2). In the study group, 82 % (41) participants with BBD were married and 18 % (9) were unmarried (Table 3).

The most common presenting complaint in the study group was lump (50 %) in the breast followed by lump associated with pain (28 %). Pain and lump with pain were 10 % each, respectively and 2 % presented with lump with pain and discharge (Table 4). Among the study participants, 90 % (45) were diagnosed to be aberration of normal development and involution (ANDI) and the remaining with inflammatory breast disease. Inflammatory type was mostly present in the young, lactating group.

In this study, most patients with fibroadenoma mass have features like well defined, smooth surface, firm consistency and without fixity to breast tissue / skin. Most of the lesions in patients with fibrocystic disease were less than 5 cm in size, ill defined, had smooth surface, firm in consistency with fixity to breast tissue. Phyllodes tumours have size more than 5 cm in size, lobulated, firm, well defined with fixity to breast.

Age	Number	Percentage
15 – 19	05	10 %
20 – 24	11	22 %
25 – 29	03	6 %
30 – 34	12	24 %
35 – 39	11	22 %
40 – 44	06	12 %
45 – 50	02	4 %
Total	50	100 %

Table 1. Age Wise Distribution of the Study Participants

Diagnosis	Frequency	Percent
Fibroadenoma	28	56
Fibroadenosis / cystic disease	13	26
Fibroadenoma + cystic disease	2	4
Phyllodes tumour	2	4
Breast abscess	3	6
Periductal mastitis	2	4

Table 2. Frequency of the BBD in the Study Group

Marital Status	Number	Percentage
Unmarried	9	18
Married	41	82
Total	50	100

Table 3. Marital Status of the Study Participants in the Study Group

Presenting Complaint	Number	Percentage
Pain	5	10
Lump	25	50
Lump + Pain	14	28
Lump + Pain + Discharge	1	2
Lump + Pain + Fever	5	10
Total	50	100

Table 4. Presenting Complaint among the Study Group

DISCUSSION

Breast is a complex structure, in which many of the pathological and developmental anomalies may occur. Both benign and malignant conditions may occur in the breast. It is very important to differentiate between benign and malignant conditions of breast. Up to 30 % women will suffer from benign breast conditions at some point in their lifetime.

The age of distribution of fibroadenoma is between 20 to 34 years with mean of 25.5 years and standard deviation of 6.06 years. This data is in accordance with the ANDI classification, where fibroadenomas were classified under disorders of development and therefore seen in early reproductive age group. In a study by Philip et al,¹⁰ age wise, 41.7 % participants were included in 10 – 20 years age group, 33.7 % in 21 – 30 years group, and 15.8 % in 31 – 40 years group. Krishna et al,¹¹ reported that distribution of the individuals was 40 %, 40.2 % and 16.8

% whereas the current report mentioned that these members were 20 %, 40 % and 40 % respectively in these age groups. Most (70.5 %) of the individuals with fibrocystic disease (FCD) in this study were categorised between 31 – 40 years age group. Similar findings were reported by Kannan et al.¹²

The most (54 %) common presentation in this study was lump in the breast (54 %), 24 % (12) presented as lump associated with pain and 5 (10 %) with lump, pain and fever. Pain was complained by 10 % (5) in this study. Usha et al.¹³ mentioned that these presentations were at the rate of 64 %, 22 %, 14 % and 0. Whereas these were mentioned to be 71 %, 24 %, and 5 % by Wilkinsons et al.¹⁴

In the present study, 5 % of patients presented with complaints within 1 month, 25 % of patients had symptoms for a duration of 1 – 3 months. 29 % of patients had symptoms for a duration of 3 – 6 months and 16 % had 6 – 9 months duration of symptoms and 21 % had symptoms for 9 – 15 months. Most of the patients with benign breast diseases, presented within 6 months from the onset of symptoms in the present study which correlates with the studies mentioned above. Patients presenting early might be due to increased awareness among the population regarding breast diseases. The duration of symptoms was reported to be 9 %, 20 %, 35 %, 14 % and 22 % respectively for < 1 month, 1 – 3 months, 3 – 6 months, 6 – 9 months and 9 – 15 months by Naveen et al.¹⁵

Left (56 %) BBD involvement was common in this study, followed by right (36 %) and bilateral (8 %). But, according to OA Egwuonwu et al.¹⁶ study, there was no significant difference between the sides, which was reported to be 49.3 %, 45.2 % and 5.5 % respectively for the left, right and bilateral involvement. In another study, side of involvement was reported to be 48.5 %, 42.7 %, 8.8 % respectively for left, right and bilateral. Egass RL.¹⁷

Most common quadrant involved in the present study was upper outer quadrant (44.2 %) followed by upper inner quadrant (26.8 %). This is similar to the findings seen in the studies done by Soji F OluWole¹⁸ and OA Egwuonwu.¹⁶ In Hughes study in benign diseases and disorders of the breast have also stated that benign breast lumps are more common in the upper outer quadrant of breast.⁶

In the present study the most common benign breast disorder was fibroadenoma 40 % (20 cases) followed by fibrocystic disease 32 % (16 cases) and then by fibroadenoma with fibrocystic disease 12 % (6 cases) and inflammatory lesions 10 % (5), phyllodes tumor 4 % (2 cases). Fibroadenoma was the most common benign breast disorder in the present study. This is according to the studies done by Khanna et al.¹¹ OA Egwuonwu et al.¹⁶ Kline TS,¹⁹ Sidhu BS et al,²⁰ Bharadwaj MH et al²¹ and Friedenreicha CM et al.

The most common ANDI is fibroadenoma (30 cases) followed by fibrocystic disease (13 cases) and then by phyllodes tumor (2 cases) according to clinical diagnosis. The FNAC report shows that the commonest ANDI is fibroadenoma (25 cases), followed by fibrocystic disease

(12 cases), then by fibrocystic disease with epithelial hyperplasia (4 cases) and the least common is phyllodes tumor (2 cases). As per histopathological examination (HPE) report fibroadenoma (20 cases) is the commonest ANDI, followed by fibrocystic disease (6 cases) and fibrocystic disease with fibroadenoma (6 cases), and then by fibrocystic disease with epithelial hyperplasia (3 cases) and phyllodes tumor (2 cases) and remaining 5 cases with inflammatory condition of breast. HPE was not done in 10 cases of fibrocystic disease. FNAC is a very useful and simple tool in diagnosing BBD and in differentiating between benign diseases from malignancy. It is a more accurate diagnostic tool as compared to clinical findings and can avoid surgeries which are not necessary.

However, compared to biopsy and histopathological examination, FNAC has got less accuracy. These days, Tru-Cut biopsy is being preferred over FNAC as more tissue is obtained for histological examination with more diagnostic accuracy.

CONCLUSIONS

BBD are most commonly seen between 20 and 40 years of age; lump was the most common clinical presentation followed by lump with pain. Based on the FNAC report, decision is made, and management was planned. Comprehensive and prompt preoperative diagnosis and management of the benign conditions is necessary to reduce the physical and psychological burden on the patients who are anxious about the possibility of malignancy.

Data sharing statement provided by the authors is available with the full text of this article at jebmh.com.

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