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To study the spectrum of breast diseases in reproductive age, women's in rural area: A study conducted at tertiary care center

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Abstract

Background: Breast disorders in the child-bearing women are common. It can be palpable or non-palpable, benign or malignant. Many women suffering from different breast problems, breast abscess are commonly develops during the breast feeding period.

Objectives: 1. To study the spectrum of breast diseases, in the reproductive age.

Methodology: prospective study (cohort), enrolled 227 patients, study spans from July 2018 - December 2019, (18 month).

Results: Among 227 patients, age ranging from 16-45 years, in our study breast diseases were broadly divide into Breast lump, breast pain & nipple discharge. Lump is commonly observed (48.89%), diagnosed by triple assessment, accuracy of clinical diagnosis was 76.25%. Among all patients, 240 Pathology diagnosed, commonest is Fibroadenoma (42.09%), only 2 had ductal carcinoma.

Conclusions: Efficiently diagnosis of the different breast diseases with minimal available tools. BBD is the common occurrence in reproductive age of general population, cancer to be diagnosed in advanced age.

Keywords: Spectrum of breast diseases, benign breast diseases, breast disorder, lump in breast, fibroadenoma

Introduction

Mammary gland or breast is a unique feature of mammals ^[1] its growth is under control of various hormones during puberty, menstruation & menopause ^[2]. Physiological states like – Pregnancy, Lactation it undergoes cyclical changes. Breast lump is commonest findings³, nipple discharge and pain also common, it develops significant anxiety ^[3, 4]. Especially, when it occurs in pregnancy ^[5] mostly it is benign with various degrees of associated breast cancer risk ^[5, 6]. Breast pathology may be palpable or non-palpable, benign or malignant. In reproductive age, many women suffering from different breast problems including mastitis, breast abscess, galactocele, fibro-adenoma, and pregnancy-associated breast cancer (PABC) ^[7]. Breast abscess commonly develops during breast feeding period⁸, while mastitis is lactational or non-lactational ^[11]. Every woman presenting with breast complain should be evaluated to exclude or establish a diagnosis of Cancer ^[4],

Incidence of breast diseases in fertile women is 10-65% ^[22]. A 200000 Breast disorders are identified annually ^[9] it is very common ^[10]. Several types of breast disorders found in teens, young's most of these are benign ^[12, 13, 14] and a well-known risk factor for breast cancer, although the magnitude of the Association varies by lesion type ^[16, 17]. Benign breast diseases (BBD) are a group of diseases which is non-cancerous and commonly developed in young age, than the malignancy ^[18, 19]. In fact, 10 times more common in western countries ^[20]. Mostly it is benign lesion, only 3-6% is due to breast cancer ^[28]. 7% of woman with breast cancer are diagnosed before 40 years ^[15]. Benign breast changes are more common in women of childbearing age and cancer postmenopausal ^[28].

All women with breast diseases do not experience the same signs and symptoms. According to WHO definition, the symptoms of puerperal mastitis are pain, local tenderness, warmth, swelling of breast and usually unilateral ^[28]. At the same time her age, hormone level and medicines that may cause lumps, bumps and some other changes. Diagnosis of breast disease commonly performed by triple assessment, history, physical examination, imaging study-ultrasonography or mammography, & pathological studies FNAC or core biopsy ^[21] also cystic

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fluid cytology and Galactography. BBD represents a composite of clinical and histopathological diagnosis of breast tissue including developmental abnormalities, inflammatory lesion, epithelial and stromal proliferation and neoplasm [24]. Sometimes, there is poor correlation between clinical, radiological and pathological features [25]. Few studies have explored the clinical diagnosis of breast disorders [26]. Classification of BBD is ANDI (Aberration of the normal development and involution) but it causes confusion due to lack of clarity between the physiological and pathological changes [21]. A new scoring system has been devised by Love S, *et al.* [27], called Nashville's classification.

- a. Clinical:** 1. Physiological swelling and tenderness 2. Nodularity, 3 Pain in breast 4. Palpable lump 5. Nipple discharge 6. Infection/Inflammation
- b. pathological:** 1. Non-proliferative lesion 2. Proliferative breast lesion without atypia, 3 Atypical proliferative lesion [21, 27]. Early diagnosis and management of breast diseases can alleviate unnecessary anxiety, about breast cancer [21].

Methodology

Method: Prospective, (cohort) study enrolled 227 patients, study spans from July 2018 to December 2019 (18 month), study carried out at tertiary care center, MUHS Nasik, Maharashtra, India. Inclusion: Females, age- 16-45 year. Sample size: 227 patients, reported to OPD/Casualty Evaluation: Multivariate analysis established, W/I consent obtained.

Procedure: Breast diseases broadly divided into Breast lump, breast pain & nipple discharge, diagnosis established by 'triple assessment', physical examination and further correlated with radiological and pathological examination. USG (Ultra-Sonography) provided unique information in assessing both palpable and non-palpable breast abnormalities & its dimension. FNAC or biopsy required to confirm the pathological diagnosis & fluid cytology for nipple discharge. 1. Females < 35 year with lump in breast, evaluated by triple assessment- physical examination, USG or mammography and FNAC. It is necessary to reassure women at 1st consultation that, incidence of cancer in early life is less, 2. Females > 35 years with lump, evaluated by triple assessment but some-times diagnosis may be non-conclusive; it shows atypical proliferative lesion, BIRADS 4 lesion or suspicious of malignant cells, in such condition biopsy is mandatory, either of true cut biopsy or core biopsy. Because these conditions may increase the risk of breast cancer. 3. Females with nipple discharge, evaluated by triple assessment, sometime fluid cytological study. 4. Females with breast pain/cyclical mastalgia/heaviness/Fullness, diagnosed clinically & imaging study, few of them need biopsy in advanced age. 5. ANC/PNC period, females presented with acute breast swelling & persistent pain are mostly infective or inflammatory pathology, can be diagnosed clinically & USG. In chronic infection required biopsy, to establish a diagnosis. Follow up: Clinical diagnosis compared with final diagnosis; sometime multiple visits may require to confirming the diagnosis. Some patients need surgery, while some of them treated conservatively these patients require frequent OPD follow up- to monitor the progress of disease. Data collection: Relevant history, demographic data and investigative findings confirmed. All were recorded on pretested format and updated every visit. Limitations: Some participants have lost or irregular follow up.

Study design: Eligible for participation – Prospective study (cohort) – OPD/ward patient evaluation – Triple assessment - Follow up – Data collection - Clinical outcome - Analysis.

Result

This study included 227 patients, age ranging from 16-45 years, maximum patients 101(44.49%) seen in 26-35 year, followed by 80 (35.24%) in 16-25 year & 46 (20.27%) in 36-45 years.

Table 1: Symptoms observed in different breast diseases

Sr. No.	Symptoms	No of Patient	%
1	Lump	111	48.89%
2	Lumpiness/Heaviness with cyclical pain	82	36.12%
3	Swelling/Lump with persistent pain	20	08.81%
4	Nipple discharge	15	06.60%
5	Redness	11	04.84%
6	Ulcer	01	00.41%

In this study symptoms were broadly divide into Breast lump, pain, & nipple discharge. Commonly observed lump in 111 (48.89%) patients, lumpiness and Heaviness with cyclical pain in 82 (36.12%) patient. Swelling/Lump with persistent pain in 20 (8.81%), nipple discharge in 15 (6.60%), redness in 11 (4.84%) patients & ulcer in 1 (0.41%) patient. Table 1 Color of nipple discharge was green, sero-sanguinous, or bloody in nature. Other symptoms like fever in 39 patients (17.18%) commonly observed in infective & inflammatory condition, few had Headache, malaise, Axillary swelling.

This study found 136 (59.91%) females were married and 91 (40.08%) were unmarried. Among which, 49.33% cases used different contraception, 65 (28.63%) patients used OC Pills, whereas 47 (20.70%) used Cu T, & 95(41.85%) patient had at least one pregnancy.

In this study 135 (59.47%) cases belongs to low socioeconomic class, 75 (33.04%) cases in middle, and 17 (7.49%) from high socioeconomic class.

In our study all patients were evaluated by triple assessment, USG done in 216 (95.15%) patients, Mammography in 51 (22.46%) & FNAC in 170 (74.88%) patients. In nipple discharge, duct ectasia was common cause. 12 patients (5.28%) done biopsy, diagnosis comprised 6 cases of PBD (Proliferative breast diseases) without atypia, 4 cases PBD with hyperplasia and 2 cases of ductal carcinoma.

In our study single pathology observed in 234 patients (94.73%), 2 pathology found in 11 patients (4.45%), & 3 Pathology observed in 2 (0.80%) patients.

Table 2: Comparison of clinical diagnosis with USG, Mammography, HPE

Sr. No.	Diseases	Clinical	USG/Mammography/HPE
1	Fibroadenoma	100	101
2	Fibroadenosis	67	65
3	Duct Ectasia	05	03
4	Galactocele	07	06
5	Antibioma	04	03
6	Carcinoma Breast	00	02

In this study most of diseases were clinically diagnosed but confirmed either cytologically or histologically, or in both ways. Table 2, the accuracy of clinical diagnosis was 76.25%.

Table 3: Diagnosis of Breast diseases

Sr. No	Diseases	No. of Pt.	%
1	Fibroadenoma	101	42.09%
2	Fibrocystic diseases with pain	65	27.08%
3	Breast Abscess	22	09.17%
4	Simple cyst	12	05.00%
5	Intraductal Papilloma	12	05.00%
6	Galactocele	06	02.52%
7	Duct Ectasia	03	01.25%
8	Antibioma	03	01.25%
9	Benign Cystosarcoma phyllodes	01	00.41%
10	Fat necrosis	03	01.25%
11	Proliferative Breast diseases(PBD) without Atypia	06	02.50%
12	Proliferative Breast disease(PBD) with hyperplasia	04	01.66%
13	Ductal carcinoma	02	00.83%

This study enrolled 227 patients, among which 240 Pathology diagnosed, commonest is Fibroadenoma shown in 101 (42.09%) patients, followed by fibrocystic disease in 65 (27.08%) patients. Breast abscess seen in 22 (9.17%) patients, intra-ductal papilloma shown in 12 (5%) patients. Simple cyst in 12 (5%), Galactocele in 6 (2.52%), Antibioma, Fat necrosis & Duct ectasia in 3 (1.25%) each, Cystosarcoma phyllodes in 1 (0.41%), PBD without atypia in 6 (2.50%), PBD with hyperplasia in 4 (1.66%) & ductal carcinoma in 2 (0.83%) patients. Table 3

Discussion

Our study included 227 patients age ranging 16-45 year, maximum patients 101(44.49%) reported in 26-35 year. Tariq Wahab Khanzada & *et al.* observed 44% patients belongs to 3rd decade of life 31-40 years, followed by 33% 4th decade 41-50 years, & age ranging 16-46 year mean age (29.7+- 5.2) [28]. Brajesh kumar & *et al.* Observed among 300 patients, maximum cases reported in 21-30 years, followed by 31-40 year [2].

In this study symptoms were broadly divide into Breast lump, pain & nipple discharge. Commonly observed lump in breast (48.89%), cyclical pain (36.12%); swelling with persistent pain (8.81%) & nipple discharge in 6.60%, & other symptoms like fever (17.18%). Tariq Wahab Khanzada & *et al.* observed, Palpable lump or thickening in breast 69.6%, persistent pain in 28(9.4%) cases. abscess, infection, and mastitis in 63(21.1%) [28]. Brajesh kumar & *et al.* broadly divided the symptoms, Breast lump, Breast pain & Nipple discharge. Commonest presentation was breast lump 88%, out of these 58.66% presented with breast lump while 29.33% presented with associated symptoms & 8.66% presented with nipple discharge, many patients presented 2 or more symptoms [2]. Bernardi, A. P. Londero & *et al.* described Mastalgia is reported by 47% of women, isolated symptom in (10%) [29]. Stachs A & *et al.* observed, Fever >38° and aching limbs, general feeling of illness in few patients [28].

This study observed (59.91%) patients were married, (49.33%) patients used contraception, & (41.85%) had at least one pregnancy. & (59.47%) cases, belongs to low socioeconomic class.

Bernardi, A. P. Londero & *et al.* described, 63 women (60%) used contraception in which 44(41%) had at least one pregnancy [29].

In this study, evaluation by triple assessment, USG, Mammography & FNAC, 12 had biopsy. The accuracy of clinical diagnosis was 76.25%. Stachs A & *et al.* described the evaluation by History, clinical examination, diagnostic imaging like USG or mammography, to avoid false negative findings the pathological results are needed [28]. Barton MB & *et al.* describe those found with breast disorder were referred for B U S and

USG guided biopsy for BIRADS 4 lesion [23].

Our study commonly observed single pathology (94.73%). Tariq Wahab Khanzada, & *et al.*, also observed single pathology in 70.4%, 2 pathology 18.4%, & 3 Pathology 9.9%, and 4 in (1.3%) [28].

In this study 12 (5.28%) biopsy done, comprised 6 cases of PBD without atypia, 4 PBD with hyperplasia and 2 of ductal carcinoma. Mima B & *et al.* described, diagnosis confirmed by cytology or histology in which FNAC done in 87 cases, & biopsy in 65 cases. Among it 3 reported as PBD with atypia [21].

In this study 227 patients diagnosed 240 Pathology, commonest is Fibroadenoma (42.09%), fibrocystic diseases (27.08%). Breast abscess in (9.17%), intra-ductal papilloma found (5.00%). Simple cyst (4.58%) & few were Galactocele, Antibioma, Fat necrosis & Duct ectasia. Benign cystosarcoma phyllodes found in (0.41%) & ductal carcinoma (0.83%) Tariq Wahab Khanzada & *et al.*, described FA was the most common benign breast diseases 27% followed by fibrocystic diseases (21%) [28]. Brajesh Kumar & *et al.* observed FA in 42%, Fibroadenosis 16%, Abscess 13%, Mastalgia 13%, Nipple discharge (8.66%) in which Duct ectasia 23 cases & Intraductal Papilloma 3 cases. Galactocele 4%, Antibioma 2.66%, Proliferative disease without atypia 2%, Proliferative diseases with florid hyperplasia 0.66%, Invasive ductal carcinoma (0.33%) [2]. Stachs A *et al.* observed, Mastalgia and fibrocystic changes are common (around 50% of all women >30 years). Fibroadenoma shown in 25% of cases, papillary lesion shown in 16% & radial scar found in 7% patients [28].

Conflict of interest: The author has no competing interests.



Fig 1: Lump in Breast with redness



Fig 2: Breast swelling with ulcer



Fig 3: Lump in Breast with Athelia in young



Fig 4: Nipple discharge

Conclusions

In reproductive age group benign breast diseases are a common problem, still it is neglected entity. And fact is, it comprised most of breast complain in rural area. Among which fibroadenoma was the commonest of all BBD in younger age, fibrocystic disease was the next with increasing age, infective and inflammatory condition commonly observed during ANC & PNC period. Self-reported Benign breast diseases may be a useful tool for early detection of different breast diseases in areas where there is no mammography based breast cancer screening services, easily available. It was thus concluded from study that, BBD is the common occurrence in general population. Cancer to be diagnosed only at later age, it needs structured screening program in this area. Clinical examination of breast followed by radiology and histopathology is more helpful for accurate diagnosis. Benign breast diseases can be distinguished from malignant lesion through, selective use of available diagnostic tools.

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