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Epidemiological determinant of breast disease pattern among women attending breast clinic in AL-Hilla teaching hospital

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Abstract

Background: Breast diseases are usually common in reproductive age groups female. It can be benign or malignant disease. Most females complain from diseases of breast such as mastitis that are usually occur during period of lactation.

Objective: To study the epidemiological determinant of breast diseases pattern.

Methods: Cross sectional study was conducted during a period of 3 months (1st of March - 1st of Jun) at 2023 at out patients breast clinic at Al- Hilla teaching hospital in Babylon governorate.

Results: Among of (150) patients (27.33%) their age was between 40-49 years, (40%) of patients diagnosed as fibro adenoma, (28%) diagnosed as fibrocystic breast disease, (8%) diagnosed as abscess, (5.33%) diagnosed as simple cyst and (4.66%) diagnosed as ductal carcinoma.

Conclusion: Non malignant breast diseases represents a heterogeneous clusters of disorder that is common than malignant disease. In our study fibro adenoma is the most frequent one of benign breast disease, while fibrocystic breast disease consider second to fibro adenoma, that was similar to other study.

Keywords: Epidemiological determinants, pattern of breast diseases, fibro adenoma

Introduction

Female breast tissue affected by of a variety hormones and undergoing physiological changes during and beyond the reproductive life ^[1].

The growth of breast tissue through the puberty, menstruation, the pregnancy and menopause is under hormones control ^[2].

The commonest finding of breast diseases is the breast lump, while pain and nipple discharge also common finding ^[3]. These finding develop significant anxiety especially when it occurs during the pregnancy which mostly benign condition with various degrees of associated risk for breast cancer ^[4,5].

Pathology of breast may be detectable or not, benign or non benign lesion. Female through their reproductive age, may suffer from a variety of breast diseases like inflammation of mammary gland, duct ectasia, the fibro-adenoma, and the breast cancer that occur during pregnancy ^[6]. Abscess of breast mostly occur through the period of breast feeding, while mastitis can occur any time ^[7]. Every female complain from any sign and symptoms of breast diseases must be assessed to exclude breast cancer diagnosis ^[3].

The incidence of breast diseases in reproductive age group about 10-65%. About 200000 diseases of breast are annually detected ^[8]. Most of breast diseases that detected during teens are usually benign. The knowledge about breast cancer risk factor, the magnitude of association varies by breast lesion types ^[9].

Non malignant breast diseases are mostly occur in young age groups females. Mostly in western countries than others. Breast cancer occur in 3-6% of them ^[10]. Nearly 7% of females were diagnosed as breast cancer before the age of forty years. Non malignant breast disease mostly occur in reproductive age group females and cancer mostly occur postmenopausal ^[10].

The breast diseases diagnosis performed by triple assessment, that include the history taking, physical examination, the imaging by mammography or US and histopathological studies by fine needle aspiration cytology ^[11].

Benign breast disease consider a composite of clinical diagnosis and breast tissue histopathological diagnosis that include the inflammation, proliferation of epithelial, stromal and neoplasm abnormalities [11].

While majority of breast disease are benign and commoner than the malignant one. About 50% of female during their life may had benign breast disease symptoms. Some benign breast disease may represent as breast cancer risk factors later [12].

It is important to identify and study these lesions in detail which will help to recognize patients with risk factor for breast cancer for whom a regular follow up is mandatory for an accurate management.

Methods

Study design: Cross sectional study was conducted during a period of 3 months (1st of March - 1st of Jun) at 2023.

Setting of study: Outpatient breast clinic at Al-Hilla Teaching hospital in Babylon governorate.

Sample size and data collection: 150 patients attended the outpatient breast clinic at Al-Hilla Teaching hospital.

Inclusion criteria

1. Female patients that attended outpatient breast clinic.
2. Who agreed to participate in the study.

Exclusion criteria

Patients who refused to participate in the study.

Statistical Analysis

The collected data summarized and analyzed statistically by using (SPSS) program version 26. Descriptive statistics were expressed as frequencies and percentages. Chi square test was used to show the statistical association between variables and breast disease. P value of ≤ 0.05 was considered as statistically significant.

Results

Table 1: Sociodemographic variables of study sample

| Variables | No. | % | |
|-----------------------------|----------------|-----|-------|
| Age group (years) | 10-19 | 10 | 6.67 |
| | 20-29 | 29 | 19.33 |
| | 30-39 | 37 | 24.67 |
| | 40-49 | 41 | 27.33 |
| | 50-59 | 26 | 17.33 |
| | 60-69 | 6 | 4 |
| | 70-79 | 1 | 0.67 |
| Total | 150 | 100 | |
| Residence | Urban | 67 | 44.67 |
| | Rural | 83 | 55.33 |
| | Total | 150 | 100 |
| Educational level | illiterate | 23 | 15.33 |
| | primary | 61 | 40.67 |
| | secondary | 33 | 22 |
| | High education | 33 | 22 |
| | Total | 150 | 100 |
| Marital status | Married | 131 | 87.33 |
| | Unmarried | 19 | 12.66 |
| | Total | 150 | 100 |
| Age of menarche (years) | 10 | 3 | 2 |
| | 11 | 9 | 6 |
| | 12 | 58 | 38.6 |
| | 13 | 52 | 34.66 |
| | 14 | 15 | 10 |
| | 15 | 7 | 4.66 |
| | 16 | 6 | 4 |
| Total | 150 | 100 | |
| Age of menopause (years) | Not yet | 115 | 76.66 |
| | 45-49 | 18 | 12 |
| | 50-55 | 17 | 11.33 |
| | Total | 150 | 100 |
| Family Hx of breast disease | Yes | 33 | 22 |
| | No | 117 | 78 |
| | Total | 150 | 100 |

Among of (150) patients (27.33%) their age was between 40-49 years, (55.33%) were rural, (40.67%) were primary education, (87.33%) were married, (81.33) had regular menstrual cycle, (38.6%) their age of menarche was at 12

years old, (76.66%) of them not reach menopausal age and (22) of patients had previous family history of breast disease as in table 1.

Table 2: Reasons for visiting out patients breast clinic

| Reasons | No. | % |
|------------------------------|-----|------|
| Pain/ change in breast size | 102 | 68 |
| Screening | 35 | 23.3 |
| Skin changes | 7 | 4.6 |
| Nipple discharge/ retraction | 6 | 4 |
| Total | 150 | 100 |

About (68%) of patients attended the out patients breast clinic complaining of mastalgia or change in breast size, while (23.3%) of them attended the out patients breast clinic for screening as in table 2.

Table 3: Distribution of study sample according to diagnosis

| Diagnosis | No. | % |
|----------------------------|-----|------|
| Fibro adenoma | 60 | 40 |
| Fibrocystic breast disease | 42 | 28 |
| Abscess | 12 | 8 |
| Simple cyst | 8 | 5.33 |
| Intra ductal papilloma | 6 | 4 |
| Duct ectasia | 6 | 4 |
| Fat necrosis | 5 | 3.33 |
| Mastitis of puberty | 3 | 2 |
| Galactocele | 1 | 0.66 |
| Ductal carcinoma | 7 | 4.66 |
| Total | 150 | 100 |

Regarding the diagnosis, (40%) of patients diagnosed as fibro adenoma, (28%) diagnosed as fibrocystic breast disease, (8%) diagnosed as abscess, (5.33%) diagnosed as simple cyst and (4.66%) diagnosed as ductal carcinoma as in table 3.

Table 4: Distribution of study sample according to methods of diagnosis of breast disease

| Methods | No. | % |
|--|-----|------|
| Mammography | 74 | 49.3 |
| Ultrasound | 140 | 93.3 |
| Fine needle aspiration cytology (FNAC) | 34 | 22.6 |

Regarding the method of diagnosis of breast disease, (93.3%) diagnosed by ultrasound, (49.3%) diagnosed by mammography and (22.6%) diagnosed by FNAC as in table 4.

Table 5: The statistical correlation between breast disease and other patients' variables

| Variable | | Malignant breast disease | | Benign breast disease | | P value |
|----------------------------------|----------------|--------------------------|------|-----------------------|------|---------|
| | | N (7) | % | N (143) | % | |
| Age group (years) | 10_19 | 0 | 0 | 10 | 6.9 | 0.002 |
| | 20_29 | 0 | 0 | 29 | 20.2 | |
| | 30-39 | 1 | 14.2 | 36 | 25.1 | |
| | 40-49 | 3 | 42.8 | 38 | 26.5 | |
| | 50-59 | 2 | 28.5 | 24 | 16.7 | |
| | 60-69 | 1 | 14.2 | 5 | 3.4 | |
| Residency | urban | 2 | 28.5 | 65 | 45.4 | 0.641 |
| | rural | 5 | 71.4 | 78 | 54.5 | |
| Educational level | Illiterate | 2 | 28.5 | 21 | 14.6 | 0.04 |
| | Primary | 3 | 42.8 | 58 | 40.5 | |
| | Secondary | 1 | 14.2 | 32 | 22.3 | |
| | High education | 1 | 14.2 | 32 | 22.3 | |
| Marital status | Married | 6 | 85.7 | 125 | 87.4 | 0.831 |
| | Un married | 1 | 14.2 | 18 | 12.5 | |
| Family history of breast disease | Yes | 6 | 85.7 | 27 | 18.8 | 0.001 |
| | No | 1 | 14.2 | 116 | 81.1 | |

There was a statistical association between type of breast disease with age of patients, educational level and family history of breast disease as in table 5.

Discussion

Non malignant breast diseases represents a heterogeneous cluster of disorder that constitute the most important reasons for the breast compliance in women and it is more common than the malignant disease.

Benign breast disease made attention related to high prevalence, effect on females life and also due to some histological cancer types. Benign breast lesion very important to be diagnosed due to ability to mimic malignant disease and not all benign diseases are cancer risks free. The management of benign breast disease is preservation of breast tissue as far as possible in compare with breast cancers traumatizing surgeries [13].

Our study included 150 patients age ranging between 10-79 year, the most common age of presentation (27.33%) was between 40-49 years, that was nearly similar to other study that observed 44% patients belongs to 3rd decade of life 31-40 years, followed by 33% 4th decade 41-50 [10].

Regarding the diagnosis, our study showed that (40%) of patients diagnosed as fibro adenoma, (28%) diagnosed as fibrocystic breast disease, (8%) diagnosed as abscess, (5.33%) diagnosed as simple cyst, (4.66%) diagnosed as ductal carcinoma, (4%) was diagnoses as intra ductal papilloma and duct ectasia respectively, (3.33%) was

diagnosed as fat necrosis and (0.66%) was diagnosed as galactocele, which was compatible with other study among 227 patients, the most common disease was fibroadenoma (42.09%), (27.08%) was fibrocystic diseases, (9.17%) was abscess, (5.00%) was intra-ductal papilloma, (4.58%) was simple cyst and other cases were galactocele, and duct ectasia. Ductal carcinoma was (0.83%) [14].

Usually, It is a disease of early reproductive life, mostly bilateral and multiple. Young females present with palpable mass and older women present with mammographic density and calcification. Also consistent with other study [15, 16].

Fibrocystic lesions usually respond well to hormonal therapy and rarely required surgery [17].

Lactiferous duct obstruction and inflammation known as duct ectasia. it is usually considered as a precursor for breast cancer. The disease had similar breast cancer presentation such as retraction of nipple, pain and bloody nipple discharge [18, 19].

Regarding the method of diagnosis of breast disease, (93.3%) diagnosed by ultrasound, (49.3%) diagnosed by mammography and (22.6%) diagnosed by FNAC, that agreed with other study that described the assessment by taking history, clinical examination, imaging by US or mammography, to avoid the findings of false negative [20].

There was a statistical association between type of breast disease and age of patients, the most common age of breast disease was 40-49 years that was compatible with a study in Egypt also showed that the majority of breast cancer cases

are diagnosed among women aged 40-49 years ^[21].

Also there was a statistical association between type of breast disease and family history of breast disease that was compatible with other study in Iraq ^[22].

Conclusion

Non malignant breast diseases represents a heterogeneous clusters of disorder that is common than malignant disease. In our study fibro adenoma is the most frequent one of benign breast disease, while fibrocystic breast disease consider second to fibro adenoma, that was similar to other study. Pathological evaluation very important for the definitive diagnosis. Benign breast diseases may have comorbidity role for all age groups female. So, the health education, screening and follow up of benign breast diseases may help to decrease lesions effect. It is advisable that all females with breast lesions should be monitored regularly to exclude breast cancer possibility.

Conflict of Interest

Not available

Financial Support

Not available

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