Al-Rafidain J Med Sci. 2025;8(1):23-26.
DOI: https://doi.org/10.54133/ajms.v8i1.1597

Online ISSN (2789-3219)

Research Article

Clinical Profile of Female Patients Presented with Breast Diseases: An Institutional Analysis in Baghdad, Iraq

Rawa'a Abdul Sattar Abdul Wahhab[1]*, Luma Kareem Mohammed[2], Bashar Abass Abdulhassan[1]
[1]*Department of Surgery, College of Medicine, Al-Nahrain University, Baghdad, Iraq;* [2]*Department of Family and Community Medicine, College of Medicine, Al-Nahrain University, Baghdad, Iraq*
Received: 25 November 2024; Revised: 6 January 2025; Accepted: 8 January 2025

Abstract

Background: Female patients may complain of breast symptoms throughout their lives. These lesions are mostly benign. Benign breast lesions are much more common than breast cancer throughout the world. ***Objectives***: to assess the frequency, pattern, and clinical presentation of breast diseases among female patients attending the breast clinic in one of the largest teaching hospitals in Baghdad, Iraq, during 2023. ***Methods***: All cases that visited the breast clinic at Al-Imamein Al-Kadhmain Medical City Hospital, Iraq, in 2023 had their case files reviewed as part of a cross-sectional descriptive survey. ***Results***: The total number of patients was 7526. For benign breast disease, the mean age of presentation was 36.4 years. And for malignant breast disease, it was 43.5 years. 49.8% of them presented with pathological symptoms, and 51.4% of the total patients came for follow-up visits, 999 Patients (13.2%) were examined using mammograms after referral by the specialist physician. The mammogram showed that 48% of them had a normal exam, and 37.5% were found to have a benign disease. 0.46% had a malignant disease, and only 17% were found to be suspected cases. 367 patients (36.7%) continued their work up inside the hospital and did FNAC and/or biopsy for a definite diagnosis; 10.3% showed malignant cells, and 88.2% were benign diseases of the breast. ***Conclusions***: Benign diseases were the most common type, and breast mass was the main clinical presentation of both benign and malignant diseases.

Keywords: Breast diseases, Institutional analysis, Mammogram, Medical records.

الملف السريري للمريضات المصابات بأمراض الثدي: تحليل مؤسسي في بغداد، العراق

الخلاصة

الخلفية: قد تشكو المريضات من أعراض في الثدي طوال حياتهن وهذه تعبر عن افات حميدة في الغالب. آفات الثدي الحميدة أكثر شيوعا من سرطان الثدي في جميع أنحاء العالم. **الأهداف**: تقييم تواتر ونمط وعرض أمراض الثدي السريرية بين المريضات اللواتي يترددن على عيادة الثدي في أحد أكبر المستشفيات التعليمية في بغداد ، العراق ، خلال عام 2023. **الطرائق**: تمت مراجعة ملفات حالاتها في جميع الحالات التي زارت عيادة الثدي في مستشفى مدينة الإمامين الكاظمين الطبية بالعراق في عام 2023 كجزء من مسح وصفي مقطعي. **النتائج**: بلغ إجمالي عدد المرضى 7526. بالنسبة لمرض الثدي الحميد ، كان متوسط عمر العرض 36.4 عاما. وبالنسبة لمرض الثدي الخبيث ، كان 43.5 عاما. 49.8٪ منهم ظهروا عليهم أعراض مرضية ، و 51.4٪ من إجمالي المرضى حضروا لزيارات المتابعة ، تم فحص 999 مريضا (13.2٪) باستخدام تصوير الثدي بالأشعة السينية بعد الإحالة من قبل الطبيب المختص. أظهر التصوير الشعاعي للثدي أن 48٪ منهم خضعوا لفحص طبيعي، و 37.5٪ وجدوا أنهم مصابون بمرض حميد. 0.46٪ كانوا يعانون من مرض خبيث، و 17٪ فقط تم العثور على حالات مشتبه بها. واصل 367 مريضا (36.7٪) عملهم داخل المستشفى وقاموا بإجراء FNAC و / أو خزعة لتشخيص محدد. أظهرت 10.3٪ خلايا خبيثة، و 88.2٪ من أمراض الثدي الحميدة. **الاستنتاجات**: كانت الأمراض الحميدة هي النوع الأكثر شيوعا، وكانت كتلة الثدي هي العرض السريري الرئيسي لكل من الأمراض الحميدة والخبيثة.

* ***Corresponding author***: Rawa'a A. Abdul Wahhab, Department of Surgery, College of Medicine, Al-Nahrain University, Baghdad, Iraq; Email: dr.rawaaasattar@nahrainuniv.edu.iq
Article citation: Abdul Wahhab RA, Mohammed LK, Abdulhassan BA. Clinical Profile of Female Patients Presented with Breast Diseases: An Institutional Analysis in Baghdad, Iraq. *Al-Rafidain J Med Sci.* 2025;8(1):23-26. doi: https://doi.org/10.54133/ajms.v8i1.1597

INTRODUCTION

Most of the breast conditions known for a female are benign in nature [1]. Breast conditions are usually diagnosed among females, and benign lesions are much more common than breast cancer worldwide [2]. Since they are benign, some of these lesions are clinically unremarkable and need follow-up. However, some may give rise to symptoms that can be valuable clinically and may mimic breast cancer, especially in its early stages while it is curable [3]. Benign breast conditions are mainly diagnosed or detected during the reproductive period, specifically in the second decade of a woman's life [4]. These benign lesions include variable histological diagnoses and are categorized into non-proliferative, proliferative without atypia, and proliferative with atypia, with fibroadenomas, fibroadenosis, fibrocystic disease, and mastitis being the most commonly diagnosed benign breast conditions [5]. Of these histological patterns, there was a significant two-fold increased risk of developing malignancy, especially if proliferative or associated with atypia [6]. Most breast cancer cases are sporadic, and some cases have

genetic predisposition. Factors involved in the development of breast cancer include age, occupation/radiation exposure, genetic predisposition, body habitus, alcohol intake, smoking, hormonal influence such as early menarche, late menopause, nulliparity, late first live birth, and hormonal therapy [7]. Evaluation of clinically detected breast conditions should follow the steps of the triple assessment, which includes clinical evaluation (breast and axillary examination), radiographic evaluation (mammograms), and histological evaluation (breast biopsy) [8]. In Iraq, a national program for early detection and downstaging of breast cancer was initiated in 2000 by the Ministry of Health (MOH), in collaboration with the World Health Organization (WHO), the Ministry of Higher Education and Scientific Research (MOHESR), and others. Since then, the main hospitals in all of the Iraqi governorates have built referral centers and specialized breast clinics for the early identification of breast malignancies [9]. Early Detection and Down Staging is a comprehensive program designed to lower breast cancer mortality rates by offering high-quality primary and secondary health services, conducting early detection and examinations for all women aged 20 and over, and switching from diagnosing the disease at a later stage to detecting it at an early stage, when recovery is most likely. Both treatment costs and prospects are more available [10]. This study aims for the assessment of the frequency and pattern of clinical presentations of breast diseases in female patients attending the breast clinic in one of the largest teaching hospitals in Baghdad, Iraq, during 2023.

METHODS

Study design and setting

A cross-sectional descriptive survey was used, reviewing medical case sheets/files of all patients who attended the breast clinic (benign or malignant breast masses) in Al-Imamein Al-Kadhmain Medical City Hospital during 2023. Data was collected through a questionnaire that included the patient's demographic data, initial clinical presentation of the disease, radiological findings, and histopathological findings.

Data collection and sampling

Records were obtained from the hospital's statistical unit. Missing data was included and filled in by calling the patients.

Exclusion criteria

Records of male patients had been excluded from data collection.

Ethical Consideration

Formal approval has been received from the Al-Karkh Directorate of Health and the administration of the hospital to provide the statistical records and patient files for the purpose of research only.

Statistical analysis

The data were analyzed using the statistical software IBM SPSS version 22. Descriptive analysis was done for all variables, taking into consideration the demographic data, clinical presentation, and nature of breast disease. The results were expressed as frequency and percentage.

RESULTS

The study included all the female patients who visited the breast clinic during 2023. The total number of patients was 7526. For benign breast disease, the mean age of presentation was 36.4 years. For breast cancer, the mean age of presentation was 43.5 years. 49.8% of them are presented with pathological symptoms, and 51.4% of the total patients came for follow-up visits. Most of the patients (97%) directly visited the breast clinic. Half of the patients came for screening, and most of them (85%) had unilateral disease (Table 1).

Table 1: Patients visited the breast clinic for different reasons during 2023

Visits details		n(%)
Referred from	Primary health care centers	126(0.16)
	Private clinics	89(0.11)
	Direct visit	7311(97)
Causes of visit	Screening	3782(50.2)
	Pathological symptoms	3744(49.8)
Visits number	First Visit	3663(48.6)
	Follow up visits	3863(51.4)
Affected side	Unilateral	6427(85.4)
	Bilateral	1099(14.6)
Total		7526(100)

Of those patients who were presented to the clinic, only 999 Patients (13.2%) were examined using mammograms after referral by the specialist physician. The mammogram showed that 48% of them had normal exams, and 37.5% were found to have benign disease. 0.46% had malignant disease, and only 17% were found to be suspected cases (Table 2).

Table 2: Mammogram results among patients presented to the breast clinic

Diagnosis	n(%)
Normal	480(48)
Benign	375(37.5)
Malignant	46(0.46)
Suspected	170(17)
Total	999(100)

Of those patients, only 367 patients (36.7%) continued their workup inside the hospital and did FNAC and/or biopsy for a definite diagnosis; 10.3% showed malignant cells, 88.2% were benign diseases of the breast, and still, 1.4% had suspected results (Table 3). Benign breast conditions were presented in the following manner with their associated frequencies: breast mass (85%), mastalgia (66%), and an axillary

lump (7%). Malignant breast diseases were presented as a breast mass (90%) and axillary mass (65%).

Table 3: FNAC results among patients presented to the breast clinic

Diagnosis		n(%)
Malignant		39(10.3)
Benign	Fibroadenoma	36(9.5)
	Fibro adenosis	27(7.3)
	Fibrocystic disease	32(8.5)
	Mastitis	14(3.5)
	Duct ectasia	6(1.5)
	Other non-malignant diseases	217(57.7)
Suspected		5(1.4)
Total		376(100)

The presentation shows a statistically significant difference between malignant and benign cases according to the final diagnosis, especially in terms of pain, mass, and nipple discharge, as depicted in (Table 4).

Table 4: Clinical presentation of patients according to final diagnosis

Clinical features	Benign n=332 n(%)	Malignant n=39 n(%)	*p*-value
Breast mass	228(85)	35(90**)**	0.0035
Pain	219(66)	12(31)	0.0001
Tender swelling	51(15.5)	3(7.6**)**	0.038
Erythema	46(14)	4(10.3)	0.15
Nipple discharge	33(10	24(61)	0.0001
Axillary lump	23(7)	26(65)	0.0001

Chi square test ($\chi 2$ test), $p< 0.05$ was considered statistically significant.

DISCUSSION

Over the past ten years, there has been a significant increase in the incidence of breast disease, especially with the increased use of mammography for screening. More women are diagnosed with both benign breast lesions and breast cancer, and studies in Iraq showed an increase in the incidence rates of breast cancer among Iraqi women from 2000 to 2023 [11]. The current study targeted a single major teaching hospital and tracked the cases of breast diseases among females during 2023. The routine pathway in such hospitals after receiving the patient, providing clinical examination, and then sending the patient for a mammogram, especially for high-risk patients and females, fits with the inclusion criteria of the screening program [10]. If an abnormality was found on a mammogram, further imaging was done using ultrasonography or magnetic resonance imaging (MRI). The biopsy will confirm the final diagnosis and help to categorize the nature of the disease—whether benign or malignant. Breast cancer is then staged based on tumor size, lymphatic involvement, and distant metastasis. Benign diseases of the breast were more common than malignant lesions as recorded in this study, with the mean age group of the sample being about 36 years, which agrees with a previous Iraqi study involving 1093 Iraqi females by Hashim *et al*. in 2019 [12]. Most biopsies of the examined patients that had been sent to the histopathological department were of fibroadenomas and labeled as other non-malignant diseases. Breast mass and pain were the two most typical clinical presentations of benign disease. This is comparable to the results of a study done in Erbil in 2019 that involved a sample from a public facility in Erbil City dedicated to treating breast disorders. [13]. Fibroadenoma is most likely to develop in teenagers and around menarche. Between the ages of 10 and 20, the stroma and lobules of a woman's breast may react too strongly to hormonal changes. This can cause both single and multiple palpable fibroadenomas to form [14]. The current study revealed that only 13.7% of the total visitors had mammograms, which is the most common method of detecting breast cancer, and the rate of patients having breast cancer using FNAC was 0.5%, with the mean age group older than benign disease. The rate of patients having breast cancer from the total examined patients, on the other hand, is the most common clinical presentation of malignant breast disease, which was also breast mass, which is in tune with formal reports that mentioned that Iraq has a moderate rate of breast cancer incidence, like Western Asia, Qatar, Bahrain, and Jordan [15,16]. In addition, studies stated that breast cancer incidence peaks in older age groups, according to numerous studies conducted in Iraq [17]. Lifestyle factors, such as rising overweight rates, dietary modifications, and physical inactivity, are probably to blame for these consequences. Most breast cancer patients in Iraq receive their diagnosis much later in life [18]. Thus, the general public's awareness of breast cancer efforts on breast cancer should be supported to prevent patient delays in presenting and continue their workup inside the hospital to reach the final diagnosis and receive full management, as well as to help the national program for early detection of breast cancer, as it is important for improved outcomes. In our study, it was found that about 14% of patients are affected with bilateral breast disease. This is compatible with the finding of a study done in Sweden that showed a 5% incidence rate of bilateral breast cancer [19]. A recent study conducted in Nigeria found that within their study sample, only 19.8% had bilateral breast masses [20], which is compatible with our research.

Study limitations

This study is a single-center survey that may not reflect the whole situation in our country. Therefore, further multicenter studies and the inclusion of *p*-value in the statistical analysis of additional studies are needed.

Conclusion

Analysis of the records of breast diseases in a major hospital in Iraq showed that benign diseases were the most common, and breast mass was the main clinical presentation of both benign and malignant diseases.

ACKNOWLEDGMENTS

The authors thank the statistics unit at Al-Imamein Al-Kadhmain Medical City Hospital for their cooperation and provision of records.

Conflict of interests

No conflict of interest was declared by the authors.

Funding source

The authors did not receive any source of funds.

Data sharing statement

Supplementary data can be shared with the corresponding author upon reasonable request.

REFERENCES

1. Al-Asadi JN, Ibrahim SJ. Childhood cancer in Basrah, Iraq during 2012-2016: Incidence and mortality. *Asian Pac J Cancer Prev*. 2018;19(8):2337-2341. doi: 10.22034/APJCP.2018.19.8.2337.
2. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin.* 2018; 68:394–424. doi: 10.3322/caac.21492
3. American Cancer Society. Cancer Facts and Figures 2019. American Cancer Society; Atlanta, GA, USA: 2019. Available at: https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2019/cancer-facts-and-figures-2019.pdf
4. Mehmood T, Anwar MI, Laique MH, Javed D, Askari A, Rizwan M. (2023). Clinico-epidemiological profile of patients presented with breast lesions: An institutional analysis. *J Popul Ther Clin Pharmacol*. 2023;30(19):1296–1301. doi: 10.53555/jptcp.v30i19.3833.
5. GBD 2015 Eastern Mediterranean Region Cancer Collaborators. Burden of cancer in the Eastern Mediterranean Region, 2005–2015: Findings from the Global Burden of Disease 2015 Study. *Int J Public Health.* 2018;63:151–164. doi: 10.1007/s00038-017-0999-9.
6. Zahedi R, Molavi Vardanjani H, Baneshi MR, Haghdoost AA, Malekpour Afshar R, et al. Incidence trend of breast cancer in women of eastern Mediterranean region countries from 1998 to 2019: A systematic review and meta-analysis. *BMC Womens Health*. 2020;20(1):53. doi: 10.1186/s12905-020-00903-z.
7. Lei S, Zheng R, Zhang S, Chen R, Wang S, Sun K, et al. Breast cancer incidence and mortality in women in China: temporal trends and projections to 2030. *Cancer Biol Med*. 2021;18(3):900–909. doi: 10.20892/j.issn.2095-3941.2020.0523.
8. Lima SM, Kehm RD, Terry MB. Global breast cancer incidence and mortality trends by region, age groups, and fertility patterns. EClin Med. 2021;38:100985. doi: 10.1016/j.eclinm.2021.100985.
9. Alwan NA, Tawfeeq FN, Mallah NA. Demographic and clinical profiles of female patients diagnosed with breast cancer in Iraq. *J Contemp Med Sci*. 2019;5(1).
10. Alwan N, Kerr D. Cancer control in war-torn Iraq. *Lancet Oncol.* 2018;19:291–292. doi: 10.1016/S1470-2045(18)30135-9.
11. Baburin A, Aareleid T, Rahu M, Reedik L, Innos K. Recent changes in breast cancer incidence and mortality in Estonia: Transition to the west. *Acta Oncol*. 2016;55(6):728-733. doi: 10.3109/0284186X.2015.1125014.
12. Hashim HT, Ramadhan MA, Theban KM, Bchara J, El-Abed-El-Rassoul A, Shah J. Assessment of breast cancer risk among Iraqi women in 2019. *BMC Womens Health*. 2021;21(1):412. doi: 10.1186/s12905-021-01557-1.
13. Yousif ZH, Yacoub SE. Patterns of breast diseases among women attending breast diseases diagnosing center in Erbil city/Iraq. *Global J Health Sci*. 2018;10(4):1141-1144. doi: 10.5539/gjhs.v10n4p114.
14. Taha RS, Khorsheed F. Dyslipidemia and benign breast diseases. *Duhok Med J*. 2023;16(2):46-54.
15. Fares MY, Salhab HA, Khachfe HH, Khachfe HM. Breast cancer epidemiology among Lebanese women: An 11-year analysis. *Medicina (Kaunas)*. 2019;55(8):463. doi: 10.3390/medicina55080463.
16. Labani S, Asthana S, Srivastava A, Vohra P, Bhatia D. Incidence and trends of breast and cervical cancers: A Joinpoint regression analysis. *Indian J Med Paediatr Oncol.* 2020;41:654–662
17. Abood RA, Abdahmed KA, Mazyed SS. Epidemiology of different types of cancers reported in Basra, Iraq. *Sultan Qaboos Univ Med J*. 2020;20(3):e295-e300. doi: 10.18295/squmj.2020.20.03.008.
18. Prabakar MS, Prakasam N, Reshma S, Loganathan K, Palani V. A clinical study of serum lipid profile in benign breast disease in a tertiary care hospital. *Int Surg J*. 2019;6:3162-3164.
19. Hartman M, Czene K, Reilly M, Adolfsson J, Bergh J, Adami HO, et al. Incidence and prognosis of synchronous and metachronous bilateral breast cancer. *J Clin Oncol*. 2007;25(27):4210-4216. doi: 10.1200/JCO.2006.10.5056.
20. Olaejirinde O, Soremekun I, James O. (2023). Fibroepithelial tumours of the breast seen in a tertiary health center in southwestern Nigeria. *Int J Res Med Sci*. 2023;11:2789-2795. doi: 10.18203/2320-6012.ijrms20232405.