

Observational Study on Breast Lump Cases in Iraqi Women Visiting the Breast Cancer Screening Unit at Al Elweiya Teaching Hospital in Baghdad

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ABSTRACT

Breast lumps or swelling are a common concern for women and carry potential risks, especially with the global rise in breast cancer cases. In Iraq, the incidence of breast cancer is increasing, notably impacting younger women. Common breast symptoms prompting women to seek medical attention include breast pain, nipple discharge, and palpable masses. Increased public awareness and enhanced screening methods have enabled earlier detection, allowing for treatment during stages where complete surgical resection and curative options are viable. This study aimed to examine the relationship between demographic and clinical factors and the presence of breast lumps, as well as to identify the age distribution of a study was conducted on women with palpable breast lumps who attended Al-Elweiya Teaching Hospital. This prospective study included 209 cases of palpable breast masses in female patients, assessed through a comprehensive evaluation process at the Tumor Women Center in Al-Elweiya Maternity Teaching Hospital between February and December 2023. Patients presenting with clinical signs of breast lumps underwent a thorough medical history, physical examination, and further assessment via mammogram, ultrasonography, FNAC, and/or core biopsy. Following diagnosis, patients were either scheduled for follow-up or definitive surgery. Among the 209 cases, the majority of patients (27.2%) were in the 41-50 age groups. Benign breast lumps accounted for 144 cases (68.8%), while 65 cases (31.1%) were malignant. A highly significant ($P=0.001$) association was observed between cases of malignant breast lumps and the 50-59 age group. Factors in married women who have fewer than five children, nipple retraction, and lymph node involvement showed highly significant correlations with breast lumps ($P<0.01$). Benign breast disease was the most prevalent diagnosis, with fibro-adenoma being the most common benign lesion. Breast cancer cases were less frequent, affecting about one-third of women and showing a trend toward younger age groups.

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1- INTRODUCTION

Breast disease in women includes a wide range of both non-cancerous and cancerous conditions. Breast lumps can arise from various causes, both benign and malignant. While most lumps are harmless, breast cancer is the most commonly diagnosed cancer among women and ranks as the second leading cause of cancer-related deaths worldwide [1]. The occurrence of breast cancer differs based on the patient's age and specific symptoms. Common reasons women seek medical advice for breast concerns include breast pain, nipple discharge, and the presence of a noticeable lump [2]. Breast cancer in Middle Eastern populations exhibits distinct epidemiological and clinical features compared to those observed in Western countries [3]. In 2020, breast cancer impacted 2.3 million women globally and resulted in 685,000 deaths [4]. In Iraq, breast cancer is the most prevalent cancer, comprising 22.2% of cases, and has the highest mortality rate at 15.3%, based on Globocan 2020 data. For patients presenting with a palpable breast lump, the evaluation process depends on factors such as age, menopausal status, and the level of suspicion regarding the mass. The standard approach to breast cancer assessment, known as triple assessment, includes a clinical examination, imaging (typically mammography, ultrasonography, or both), and histopathological analysis. Increased awareness and improved screening efforts have contributed to earlier diagnoses, often at stages suitable for complete surgical removal and potentially curative treatments. Advances in both treatment and screening have subsequently enhanced survival rates for women diagnosed with breast cancer [5].

Aim of the study:

- 1- Study the association of demographic and clinical findings among women visiting Al-Elweiya Teaching Hospital with breast lumps.
- 2- Determine the age incidence association with lump type.

2- MATERIAL AND METHOD

A prospective study was conducted on 209 cases of palpable breast masses in female patients at the Tumor Women Center in Al Elweiya Maternity Teaching Hospital from February to December 2023. Patients presenting to the outpatient clinic with symptoms indicative of a breast lump underwent thorough history-taking, along with general and local examinations. Each patient was then evaluated through mammography, ultrasonography, fine needle aspiration cytology (FNAC), and/or core biopsy as part of the assessment. After diagnosis, patient either scheduled for follow up or definitive surgery.

Data management and statistical analysis:

This study included 209 patients presenting with palpable breast lumps. Statistical analysis was conducted using IBM SPSS version 26. Participant characteristics were summarized as means, standard deviations, percentages, and tables. To evaluate associations between various study parameters, Fisher's exact test and the chi-square test were applied, with a significance level set at $p < 0.05$.

3- RESULTS

Out of 209 women presenting with palpable breast lumps 164 (77.4%) were married, 105 (50.2%) have less than five children. Most of patients are housewives (82.2%) with primary educational level (66.1%). The primary symptom reported was a painful lump in 84% among the patients, followed by a lump without other symptoms (11.4%) and a lump accompanied by discharge (10%), respectively. There is highly significant association of nipple retraction and lymph node involvement with breast lump P value < 0.001 for both. The symptom had an average duration of 7.2 months. The majority of the lumps (45.9%) were located on the right side of the breast (44.9%), while those on the left side accounted for a lower percentage, and both breasts were affected bilaterally in 9% of the cases (Table 1). This study revealed that 144 out of 209 patients' lumps, or 68.8%, were classified as benign. Based on FNAC classification, fibro-adenomas made up the largest category of these benign lumps 54.16%. Sixty-five (31.1%) breast lumps were malignant, with histological analysis indicating that intraductal carcinoma accounted for 80.3% of these malignant cases. The other benign causes (Galactocele, Lipoma, Myofibroblastoma, Hamartoma, and Big sebaceous cyst) of breast lumps represent 4.7% (Table 2).

Table 1: Distribution of study sample according to demographo-clinical characteristics N=209

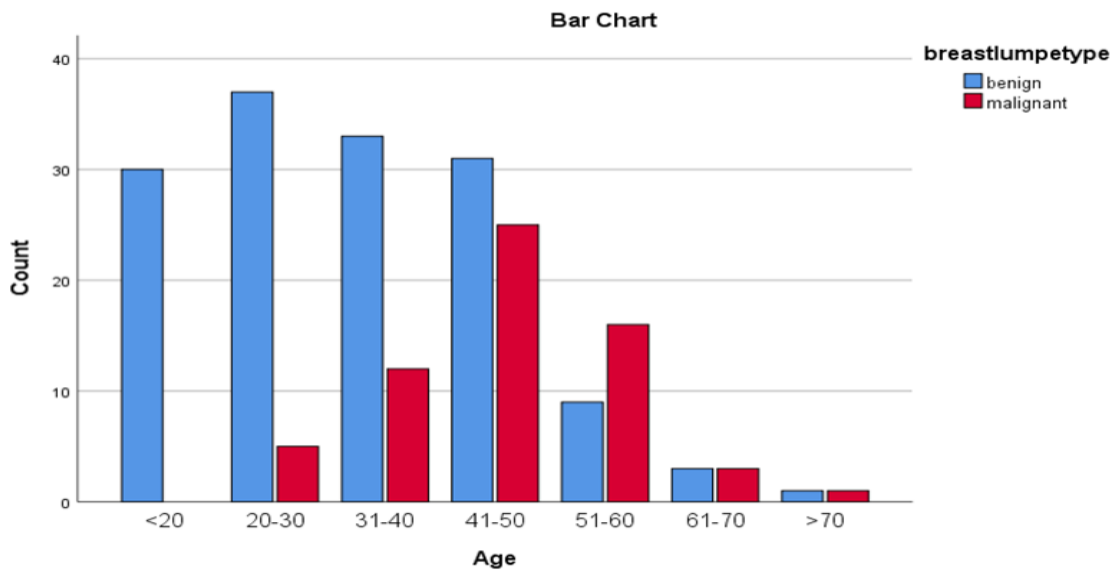
Variable	Benign No (%)	Malignant No (%)	P value
Marital status			
Married	106 (50.7%)	58 (27.7%)	Highly Significant (P<0.01)
Widow	5 (2.3%)	4 (1.9%)	
Single	33 (15.7%)	3 (1.4%)	
Parity			
Nullipara	51 (24.4%)	6 (2.8%)	Highly Significant (P<0.01)
1-4	73 (34.9%)	32 (15.3%)	
5-10	20 (9.5%)	26 (12.4%)	
>10	0 (0.0%)	1 (0.4%)	
Education			
Illiterate	14 (6.6%)	13 (6.2%)	0.33
Primary	67 (32.0%)	73 (34.9%)	
Secondary	37 (17.7%)	7 (3.3)	
Diploma/bachelor	18 (8.6%)	6 (2.8%)	
Postgraduate	8 (3.8%)	2 (0.9%)	
Occupation			
Housewife	114 (54.5%)	58 (27.7%)	0.08
Employed	11 (5.2%)	7 (3.3%)	
Student	19 (9.0%)	0 (0.0%)	
Contraception			
Yes	28 (13.3%)	15 (7.1%)	0.5
No	116 (55.5%)	50 (23.9%)	
Smoking			
Yes	7 (3.3%)	3 (1.4)	0.99
No	118 (56.4%)	53 (25.3%)	
Passive smoking	19 (9.0%)	9 (4.3%)	
Family history			
Yes	22 (10.5%)	17 (8.1%)	0.06
No	122 (58.3%)	48 (22.9%)	
Pain			
Yes	124 (59.3%)	55 (26.3%)	0.77
No	20 (9.5%)	20 (9.5%)	
Nipple discharge			
Yes	5 (2.3%)	5 (2.3%)	0.18
No	139(66.5%)	60 (28.7%)	
Nipple retraction			
Yes	1 (0.4%)	13 (6.2%)	Highly Significant (P<0.01)
No	143 (68.4%)	52 (24.8%)	
Skin changes			
Yes	24 (11.4%)	20 (9.5%)	0.2
No	120 (57.4%)	45 (21.5%)	
Lymph node			
Yes	7 (3.3%)	24 (11.4%)	Highly Significant (P<0.01)
No	137(65.5%)	41 (19.6%)	

Table 2: The occurrence of pathological features of masses categorized by benign and malignant nature.

N=209		No.	%
Benign	Fibroadenoma	78	54.16
	Fibrocystic changes	10	6.9
	Cyst	10	6.9
	Fat necrosis	3	2.08
	Phylloides tumor	8	5.55
	Granulomatous mastitis	16	11.11
	Abscess	9	6.25
	Others	10	6.9
	Total	144	68.8
Malignant	Intraductal carcinoma	56	86.1
	Inflammatory carcinoma	2	3.07
	Lobular carcinoma	2	3.07
	Paget disease of the nipple	2	3.07
	Unknown (missed in follow up)	3	4.61
	Total	65	31.1

The average age of the patients in the study was highly significant ($P < 0.01$), classified into 7 age group indicated that the largest proportion of patients, 27.2%, fell within the age range of 41 to 50 years; A highly significant association was observed between age group and the presence of malignant breast lumps 51-60 years (25.8 %, $P = 0.001$). All cases below age of 20 years were benign as shown in (figure 1).

Figure 1: Age Incidence According to Lump Type



4- DISCUSSION

Breast lumps are among the most common conditions in women. Despite extensive research on their etiopathogenesis, diagnosis, prevention, and treatment, the advent of FNAC and core biopsy has revolutionized diagnostic accuracy, making the process faster, more reliable, and comfortable for patients [5].

In our study, women with palpable breast lumps had an average age of 38.04 ± 13 within the age range of 17 to 75 years, the highest incidence of breast lumps occurred in the age group of 41-50 yrs. (27.2%) this is consistent with findings from studies conducted in Iraq and Saudi Arabia [6,7,8] followed by 51-60 yrs. (25.8%) This contrasts along with other studies that suggest breast lumps are more frequently observed in individuals in their 30s and 40s [9]. In this study, the most frequently reported symptom was a painful lump, with right-sided lesions occurring more often than left-sided ones. This observation aligns with findings from research in Pakistan, although studies in India have indicated that left-sided lesions are more prevalent. [10,11] The average duration of symptoms was 7.2 months, consistent with findings from a study conducted in Kenya [12].

One-third of the palpable breast lumps, totaling 65 (31.1%), were malignant, while benign lumps remained more prevalent at 144 (68.9%). This finding is consistent with other studies [11], particularly among young women, fibro-adenoma was prevalent, a finding consistent with research carried out in Egypt, Saudi Arabia, and southern Nigeria [13, 14, 15]. Malignant breast lumps were classified further based on histological analysis, showing that intraductal carcinoma accounted for 80% of all malignant cases, a finding that aligns with studies conducted in the USA [16].

In this study, inflammatory breast conditions—including granulomatous mastitis, abscesses, and fat necrosis—were identified as the second most frequent cause of palpable breast lumps, accounting for 18.7% of cases. This result is consistent with research carried out in Iraq and Kenya [7,12] in contrast, inflammatory conditions rank as the most common cause in New Guinea [17]. Low-grade (benign) phyllodes tumors comprised 5.55% which agree with other studies (11). In our study, cysts and fibrocystic conditions made up 13.8% of all breast lumps, consistent with findings from a study in China [18].

The incidence of breast cancer rises with age, approximately doubling every decade, and the risk is notably higher in women aged 50 and older [19]. In this study, the occurrence of malignant breast lumps was greater than that of benign lumps in individuals aged over 50, which is consistent with findings from a study conducted in Turkey [20]. There is a growing trend of breast cancer affecting younger women. In our study, we observed that among the 65 cases of malignant breast lumps, 42 cases (64.6%) occurred in individuals aged 50 and younger, with five cases (8.1%) found in the 20-30 age groups. This finding is closely related to research conducted in Iraq [21] this aligns with WHO estimates, which show that almost half of the cancers in the Eastern Mediterranean Region (EMR) are diagnosed in individuals younger than 55. Additionally, a collaborative project by WHO proposes that the younger age distribution found in the Arab population may be indicative of its demographic profile [22]. In Iraq, 82% of women with breast cancer are under 50 years old. Additionally, genetic factors, contraceptive use, and the westernization of lifestyles may contribute to this trend of breast cancer affecting younger age groups [23]. This scenario differs from findings in Western and developed countries, where peak incidence rates generally arise several decades later [21].

5- CONCLUSION

Benign breast disease was the most common type of breast lesion, with fibro-adenoma being the most prevalent among them. In contrast, cases of breast carcinoma were less common, affecting one-third of women and showing a trend toward younger age groups

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دراسة مراقبة مستقبلية لكتلة الثدي لدى النساء المراجعات لمستشفى العلوية التعليمي/ وحدة فحص سرطان الثدي في بغداد 2023

الخلاصة

كتلة الثدي أو الورم هي أحد الأعراض الشائعة لدى النساء؛ وتشكل الكتل تهديدًا محتملاً للنساء خاصة في عصر زيادة حالات سرطان الثدي في جميع أنحاء العالم. في العراق، هناك زيادة في معدل الإصابة بسرطان الثدي مع ميل للتأثير على النساء الشباب. آلام الثدي وإفرازات الحلمة والكتلة الملموسة هي أكثر مشاكل الثدي شيوعًا والتي تستشير النساء الطبيب بشأنها. أدى زيادة الوعي العام وتحسين الفحص إلى التشخيص المبكر في مراحل قابلة للاستئصال الجراحي الكامل والتدخلات العلاجية.

أجريت الدراسة لإيجاد ارتباط ديموغرافي وسريري مع كتلة الثدي وتحديد معدل حدوث كتل الثدي الملموسة حسب العمر بين النساء اللواتي يراجعن مستشفى العلوية التعليمي. أجريت دراسة مستقبلية على 209 حالة من أورام الثدي الملموسة لدى الإناث وتم تقييمها من خلال التقييم الثلاثي في مستشفى العلوية التعليمي للولادة / قسم مركز الأورام النسائية بين فبراير وديسمبر 2023. حضرت المريضات إلى العيادة الخارجية مع السمات السريرية التي توحى بوجود كتلة في الثدي وخضعن لإجراءات هي: أخذ التاريخ التفصيلي والفحص العام والموضعي. وكذلك خضعن لتصوير الثدي بالأشعة السينية والموجات فوق الصوتية و/أو خزعة الإبرة الدقيقة و/أو الخزعة الأساسية. بعد التشخيص، تم تحديد موعد للمريضة إما للمتابعة أو الجراحة النهائية. ووجد من بين 209 امرأة، 27.2% في الفئة العمرية (41-50) عامًا. تشكل أورام الثدي الحميدة 144 (68.8%) و 65 (31.1%) من أورام الثدي الخبيثة. كان هناك علاقة ذات معنوية عالية بين كتلة الثدي الخبيثة والفئة العمرية (50-59) سنة (33%) ($P < 0.01$). أما النساء المتزوجات اللاتي لديهن أقل من خمسة أطفال، ويعانين من انكماش الحلمة وإصابة الغدد الليمفاوية فقد أظهرن علاقة ذات معنوية عالية ($P < 0.01$) لكتلة الثدي. وكان مرض الثدي الحميد هو أكثر آفات الثدي شيوعًا. ومع اضطراب تشوه الجسم كان الورم الليفي الغدي هو الآفة الأكثر شيوعًا، وكانت حالات سرطان الثدي أقل تواترًا وتؤثر على ثلث النساء مع الميل للتأثير على الشباب.