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Review About The Early Detection Of Breast Cancer In Iraq

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Abstract

Background*:* Cancer occurs when changes called mutations take place in genes that regulate cell growth. The mutations let the cells divide and multiply in an uncontrolled way. Breast cancer is cancer that develops in breast cells. Typically, the cancer forms in either the lobules or the ducts of the breast.

Method and material*:* This review research was conducted for describe the clinical presentation of Iraqi females between 18 and 90 year old with breast cancer by assessment of their cancers grades and stages, in order to identify their chief complaints at the time of presentation. Also, it will enable us to discover if there is any difference between patients presenting symptoms, retrospectively over a 4-year period from 2014 to 2017.

Results*:* The changes in the percentages were observed under the influence of many factors which includes: age of the patients, married status, child delivering, History of lactation and hormonal therapy, Family history, the most common presenting symptom, and metastatic spread of the cancer to the axillary lymph node and the opposite breast .

Aims of the study: To describe the pattern of presentation of Iraqi female patients with breast cancer by assessing the grades and stages of their cancers at the time of presentation, to identify patients' main complaints, and to discover whether there is any difference in presentation between patients in different region in Iraq.

Conclusion*:* A considerable proportion of breast cancer patients in Iraq are still present with locally advanced disease at the time of diagnosis. That justifies the need to promote public educational programs to enhance the program of self-early detection of breast lumps in high risk females.

Introduction

Breast cancer is the most frequently diagnosed cancer in women and ranks second among causes for cancer related death in females. Evidence in literature has shown that in the past and ongoing research has an enormous implication in improving the clinical outcome in breast cancer. This has been attributed to the progress made in the realm of screening, diagnosis and therapeutic strategies engaged in breast cancer management. However, poor prognosis in Triple-negative breast cancer (TNBC) and drug resistance presents major inhibitions which are also current challenges for containing the disease. Similarly, a focal point of concern is the rising rate of breast cancer incidence and mortality among the population of under developed world. Nowadays, the recent studies proved that breast CA is consider being one of the commonest types of malignancy in Iraq. (1) Cancer occurs when changes called mutations take place in genes that regulate cell growth. The mutations let the cells divide and multiply in an uncontrolled way. Breast cancer is cancer that develops in breast cells. Typically, the cancer forms in either the lobules or the ducts of the breast. Lobules are the glands that produce milk, and ducts are the pathways that bring the milk from the glands to the nipple. Cancer can also occur in the fatty tissue or the fibrous connective tissue within the breast. The uncontrolled cancer cells often invade other healthy breast tissue and can travel to the lymph nodes under the arms. The lymph nodes are a primary pathway that helps the cancer cells move to other parts of the body (2).

WHO issued recommendations for developing national cancer control strategies in the Eastern Mediterranean Region (EMR). (7) In the case of breast cancer, knowledge of the disease's potential risk factors and clinical symptoms of affected patients is critical for planning early detection and management. In this sense, the Iraqi National Breast Cancer Research Program was establish in 2010, In collaboration with the International Agency for Research on Cancer (IARC)/WHO, a detailed information system database for patients diagnosed with the disease was developed. (8)Several studies have shown that Iraqi females are more likely to present with breast cancer at younger ages, in advanced stages, and with more

aggressive activity than their Western counterparts. A recent comparative study found that substantial variations in clinical and tumor characteristics between Iraqi and British patients persisted even after controlling for age among patients under the age of 50

Method and material

The review study was conducted to describe the clinical presentation of Iraqi females between 18 and 90 year old with breast cancer by assessment of their cancers grades and stages, in order to identify their chief complaints at the time of presentation. (11) Also, it will enable us to discover if there is any difference between patients presenting symptoms, retrospectively over a 4-year period from 2014 to 2017. The changes in the percentages were observed in the study under the influence of many factors which includes: age of the patients, married status, child delivering, History of lactation and hormonal therapy, (14) Family history, bloody nipple discharge, skin changes or ulcerations, bilateral breast involvement, tumor size, lymph node involvement, and the stage of the disease, the most common presenting symptom, and metastatic spread of the cancer to the axillary lymph node and the opposite breast. . The stages of breast cancer was defined according to UICC TNM Classification System and the American Joint Committee on Cancer Staging .The ethical approval was initially obtained by the Ethical Research Committee of the National Cancer Research Center according to the ethical standards laid down by the Declaration of Helsinki. The study protocol is within the framework of a Regional Comparative Breast Cancer Research Project, approved by the IARC Ethics Committee, WHO in 2016. (15)

Results

The results of the review show that changes in the percentages were observed under the influence of many factors which includes: age of the patients, married status, child delivering, History of lactation and hormonal therapy, (17) Family history, the most common presenting symptom, and metastatic spread of the cancer to the axillary lymph node and the opposite breast. The presented review show:

Firstly… the results of the study which have been grouped up on the age of the patients, which showed that women whose aged between 35and 64 was the most effective in contrast to the other age groups. Furthermore, the study has proved that breast cancer affect married female (at 88%) in comparison with other marital status group. (18) (19) Additionally, we can observe that the risk of being a patient with breast cancer can increase significantly with the number of the children which have been delivered, for example (women who have 3-5 children) made up to 47 %. But surprisingly, this proportion will decrease by a half after delivering the sixth baby. On the other hand, hormonal,therapy had amazing effect on decreasing the risk of breast cancer to 19%, while those females who were not on any made to 81%. Finally, most females who had family history with breast cancer were diagnosed with CA of the breast. Secondly… 95% of the women who was diagnosed with CA of the breast had palpable lump during their examination, and this proportion was the same for those who presented to the clinic without bloody nipple discharge. Skin changes and ulceration was seen in only 6, 7% of the examined patients, and fortunately the involvement of both breasts were noticed in 27 women in contrast with unilateral involvement which was in 544. Tow third of the patients had palpable lymph node enlargement, and around half of them were discovered ad their second stage of the disease .From this review study can illustrate that there is a wide range of etiological factors which can increase or decrees the prevalence of breast cancer in different areas around the globe .in my opinion, we need to include more people from different regions around the world in order to observe their etiological influences with same disease

Demographic characteristics and clinical history of the examined Iraqi patients diagnosed with breast cancer

VARIABLE	PATIENTS
Age range (years)*	18–90
Mean (SD)	51 (10.68)
Age category	*N* (%)
20–34	52 (4.4)
35–49	497 (42.4)
50–64	494 (42.2)
≥65	129 (11.0)
Marital status*	
Single	115 (9.8)
Married	1032 (88)
Divorced	12 (1.0)
Widow	13 (1.1)
Educational status*	
Illiterate	262 (22.4)
Primary school	355 (30.3)
Secondary school	271 (23.1)
University and over	225 (19.2)
Unknown	59 (5.0)
Parity**	
Nulliparous	115 (10.8)
1–2	180 (17.0)
3–5	496 (47.0)
≥6	266 (25.1)
Age at first child***	
<20	257 (27.3)
20–29	466 (49.5)
30–35	124 (13.1)
>35	71 (7.5)
Unknown	24 (2.5)
Lactation***	
Yes	543 (57.6)
No	399 (42.4)
Hormonal therapy*	
Yes	227 (19.4)
No	945 (80.6)
Family history (any cancer)*	
Yes	337 (28.8)
No	835 (71.2)
Family history (breast cancer)*	
Yes	219 (18.7)
No	953 (81.3)

Ref of table (24)

Table 2. Clinical presentation of the examined breast cancer patients

VARIABLE	PATIENTS
	***N* (%)**
Palpable lump*	
Yes	543 (95)
No	28 (5)
Bloody nipple discharge*	
Yes	25 (4.3)
No	546 (95.7)
Ulceration/skin changes*	
Yes	38 (6.7)
No	533 (93.3)
Bilaterality*	
Yes	27 (4.7)
No	544 (95.3)
Tumor size**	
Ts	15 (2.5)
T1	105 (17.7)
T2	351 (59.3)
T3	94 (15.9)
T4	27 (4.6)
Unknown	43
Nodal status**	
N0	184 (31.7)
N1	185 (31.8)
N2	126 (21.7)
N3	86 (14.8)
Unknown	54
Stage**	
I	63 (12)
II	250 (47.5)
III	168 (31.9)
IV	45 (8.6)
Unknown	109

Discussion

Breast cancer is the most common cancer among women, comprising 23% of the 1.1 million female cancers that are newly diagnosed each year. It is also the leading cause of cancer-related deaths worldwide, case fatality rates being highest in low resource countries. Approximately 4.4 million women diagnosed with breast cancer in the last 5 years are still alive, making breast cancer the most prevalent cancer worldwide (19) (20) .

In Iraq, breast cancer is the commonest type of female malignancy, accounting for approximately one-third of the registered female cancers according to the latest Iraqi Cancer Registry. (21) This shows that the breast is the leading cancer site among the Iraqi population in general, surpassing even bronchogenic cancer.

As proposed by the World Health Organization, early detection and screening, especially when combined with adequate therapy, offer the most immediate hope for a reduction in breast cancer mortality [5]. This was the basis of the Iraqi national program for early detection of breast cancer, which was initiated in 2001 in an attempt to down-stage this disease at the time of presentation. Since then specialized centers and clinics for early detection of breast tumors have been established in the major hospitals in all Iraqi provinces. The patients were stratified according to age into those <50 years versus those aged ≥50 years. A statistical difference was not observed with respect to the clinical presentation of the examined patients including palpable lumps, bloody nipple discharge, skin changes, tumor size, lymph node status and the stage of the disease. A similar retrospective study was performed on 1070 Egyptian breast cancer female patients showed that 18.7% were diagnosed before reaching the age of 40, 79.5% were married, history of breast feeding, oral contraceptive pills, and breast cancer was noted in 73%, 39.5%, and 7.5% respectively while 62% presented in stages III and IV. Another study have been observed In India, the median age in survey was 49 years including 1528 breast cancer patients, 69.6% were postmenopausal, family history of breast cancer was positive in 4.2%, the most common symptom was palpable lumps (96%) and 57% were.

Table 3. Clinical presentation of Iraqi patients diagnosed with breast cancer verified according to age

Variable	Age >50 years	Age ≥50 years	Chi-square
	N (%)	*N* (%)	*P*-value
Palpable lump*			
Yes	274 (50.4)	269 (49.5)	0.289
No	17 (60.7)	11 (39.3)	Not significant
Bloody nipple discharge*			
Yes	15 (60)	10 (40)	0.355
No	276 (50.4)	270 (49.5)	Not significant
Ulceration/skin changes*			
Yes	20 (52.6)	18 (47.4)	0.831
No	271 (50.8)	262 (49.2)	Not significant
Bilaterality*			
Yes	16 (59.2)	11 (40.7)	0.382
No	275 (50.6)	269 (49.4)	Not significant
Tumor size**			
Ts	6 (40)	9 (60)	0.224
T1	56 (53.3)	49 (46.7)	Not significant
T2	174 (49.6)	177 (50.4)	
T3	58 (61.7)	36 (38.3)	
T4	25 (92.6)	2 (7.4)	
Unknown	19	24	
Nodal status**			
N0	90 (48.9)	94 (51.1)	0.584
N1	93 (50.3)	92 (49.7)	Not significant
N2	72 (57.1)	54 (42.9)	
N3	48 (55.8)	38 (44.2)	
Unknown	27	27	
Stage**			
I	33 (52.3)	30 (47.6)	0.354
II	118 (47.2)	132 (52.8)	Not significant
III	95 (56.5)	73 (43.4)	
IV	23 (51.1)	22 (48.9)	
Unknown	61	48	

diagnosed in stages III and IV disease. The study was carried out by National Cancer Research Center, , On 721 out of a total of 5044 patients (14.3%) presenting with palpable breast lumps that were diagnosed as cancer. Approximately one third of the breast cancer patients were diagnosed at age 40–49 years; 71.9% came from urban areas ;(3) and 75% were married. History of lactation was reported in 63.1% and hormonal therapy in 29%. Positive family history was recorded in 16.2%. Although the lump was detected by the patient herself in 90.6% of cases, only 32% sought medical advice within the first month. Accordingly, 47% of these patients presented in advanced stages (III and IV). The main histological type was invasive ductal carcinoma, in which pathological changes of grade II and III were observed in 56.6% and 39.9% respectively. (4) DNA analysis showed that 80.3% of the carcinomas were aneuploidy.

Table 1..the table reviewed the examination of patients with breast cancer according to age. .marital status ..educational status ..parity ..Hormonal therapy … Family history

Table 2.. the table reviewed the percentage of clinical presentation of an examination feature patients with breast cancer including (Palpable lump… Bloody nipple discharge Ulceration .. skin changes.. Tumor size… Nodal status… Stage…)

Table 3 .. the table reviewed clinical presentation of an examination feature patients with breast cancer including (Palpable lump… Bloody nipple discharge… Ulceration .. skin changes.. Tumor size… Nodal status… Stage…) according to age > or < 50 years

Conclusion

A considerable proportion of breast cancer patients in Iraq are still present with locally advanced disease at the time of diagnosis. That justifies the need to promote public educational programs to enhance the program of self-early detection of breast lumps in high risk females. Excluding the marital status, level of education and number of parity, there was no statistical difference regarding the impact of age on the demographic and clinical profiles of breast cancer among premenopausal versus postmenopausal Iraqi patients (14) (13).

From this study we can illustrate that there is a wide range of etiological factors which can increase or decrees the prevalence of breast cancer in different areas around the globe .in my opinion, we need to include more people from different regions around the world in order to observe their etiological influences with the same disease.(22)(23)

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