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Review on Breast Cancer in Iraq Women

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***Abstract*— Abstract: "breast cancer" which is common type of carcinogenesis in females, surpassing even bronchogenic cancer "accounting for approximately one-third of the registered female cancers according to the latest Iraqi Cancer Registry". According to "World Health Organization", that discovery as well as examination early, particularly in combination together with sufficient therapy, present the appropriate method which decrease in the mortality rate for "breast cancer". Rate of "breast cancer" rise in Iraq, a source of a significant health problem. Labors are necessary on the nationalist scale and establishing comprehensive breast cancer control programs in Iraq for better estimate of the problem.**

Keywords— breast cancer, women, Prevalence, Iraq

I. INTRODUCTION

Cancer can occurs due to "mutations, or genes abnormalities" which that regulating the cells growth and maintenance them healthy (1). The mutations occurs when the cells injured by "chemicals or exposure to radiation and viral infections such as a human papilloma virus" (2). Cancer considers the second causes of death "8.8 million deaths in 2015" (1). "Breast cancer" which one of predominant form of malignant tumor amongst female all over the world. About "1.5 million cases" of tumor of breast where listed in 2015, which 4 recent cases analyzed worldwide "representing 27% of all cancer cases among women", as well as around "577,000 deaths" worldwide (3). However, in 2008 the "global cancer statistics" illustrated new cases approximately "two million" for breast cancer and around "628 deaths" were registered internationally in 186 countries, and "breast cancer appeared to be the most popular in 154 out of 185 countries". In addition, the highest number of breast cancer as listed in "GLOBOCAN 2018". The mortality rate of malignancies in women is as follow, Breast cancer "15 %, next lung cancer 13.8 %, colorectal cancer 9.5 %, and lastly, cervical cancer 7.5%" (4,5). According to the "latest Iraqi Cancer Registry", breast cancer is about third of the listed female cancers in Iraq, recommended that it is responsible to cancer site among females (6,7). The incidence rate is about "100 times more than that in men", "in Iraq", rank of "breast cancer" which initial among the malignant tumors as well as considered the latter major reason of mortality after cardiovascular diseases (8). The "table 1 illustrates that the incidence rate of breast cancer was highest the 10 highly frequent cancers tops in Iraq" (9).

Table 1 Distribution of cancersof higher incidence and mortality rates in Iraq (2018).

Higher incidence rate	No.	%	Higher mortality rate	No.	%
Breast	6,206	19.70	Bronchus and lung	1,628	15.82
Bronchus and lung	2,529	8.19	Breast	1,198	11.64
Colorectal	1,936	6.15	Leukemia	865	8.40
Leukemia	1,899	6.03	Brain and CNS	830	8.06
Urinary bladder	1,542	4.89	Colorectal	637	6.19
Brain and CNS	1,541	4.89	Stomach	554	5.38
Thyroid gland	1,413	4.49	Liver	535	5.20
Non-Hodgkin lymphoma	1,268	4.03	Pancreas	479	4.65
Skin and other	1,142	3.63	Urinary bladder	417	4.05
Prostate	1,023	3.25	Non-Hodgkin lymphoma	343	3.33
Total top 10	20,549	65.23	Total top 10	7,486	72.73
Total cancers of other sites	10,953	34.77	Total cancers of other sites	2,807	27.27
Total	31,502	100	Total	10,293	100

Stages of Breast Cancer

The breast cancer phase is communicated as a number from "0 to IV", "the stage 0 characterizing non-invasive cancers while the stage IV describes invasive cancers that leaving the breast to other parts" (10).

Stage 0 characterizes "non-invasive breast cancers", like ductal carcinoma in situ, when cancer cells are invading normal surrounding breast tissue; it is called invasive cancer and occupies the stage I, that divided to "IA and IB" while in the stage, the cancer classified also into two categories, IIA stage and IIB stage. In the stage IIA the tumor measures "2 cm" but less than "5 cm" and do not reach to "the axillary lymph nodes", and the stage IIB invasive breast cancer when the tumor is more than "5 cm" but do not progress to "the axillary lymph nodes" (11).

"Stage III" can divided into three groups, called as "IIIA, IIIB, and IIIC". The IIIA the tumor size larger than "5 cm" while IIIB stage the tumor has any size and has diffused to the chest wall or to the skin of the breast and produces swelling and ulcer, finally the IIIC phase there might be no indication of malignant cell in the breast or, if there is a presence of tumor, it might be any size and may reach to the

chest or the skin, and the cancer may spread to at least 10 auxiliary lymph nodes (12). When the tumors spread to adjacent lymph nodes and different organs of the body, such as "lungs, liver, distant lymph nodes, bones, cerebrum and skin", it is called Stage IV invasive (13).

Etiology of Breast tumorgenesis:

Cancer of the breast progressed in tissues of breast that includes "tiny tubules that carry the milk" and lobules "milk-producing glands". Which cancer essential risk agents implicate "age, high hormone concentration, race, economic status, and iodine deficiency in diet". The breast tumorgenesis which "a multi-stage disease", one of the important factors in pathogenic process is viruses. However, viruses are implicated in different cancer types (14,15,16).

Family History and genetic factors in breast cancer

Important factors of breast cancer are "physical, mental, and social health of women". Carcinomas are illness that includes the "whole family". The most important diseases of a family member are chronic disease which dramatically effects on the whole family. However, several factors that leads to the family crisis such as "role change, doubt, losing the sense of control, stepping into an unfamiliar environment, economic issues, etc." (17,18). Breast carcinomas is a highly diversified illness that is progressed by cooperative effect for hereditary and environmental hazard agents. It causes gradual accumulation of "genetic and epigenetic variations in breast carcinomas cells". The hazard agents that must be highlighting it are epidemiological agents "such as age, obesity, alcohol use, and exposure to estrogen in lifetime", but history of family for breast carcinogenesis have more strongest one. Nearly "20%" for carcinomas "family origin", as well as following the presence of "specific predisposing gene" for disease occurring (19,20,21).

Defensing system and breast carcinoma

Cytokines of the defensing system such as "IL-12 & IFN-γ " is able to combat tumors these play leading roles in this consideration. The main cytokine that responsible of differential of "TH1 cells" is IL-12, who is effective creators for "IFN-γ" these on other hand have more effective effect on phagocytes for producing "IL-12" likewise having a critical role in "cellular immune response" (22,23,24).

Conclusion

Breast cancer was most prevailing and rising "malignant diseases" among Iraqi women in recent years. It is involves " patient, family, and community, and wastes many financial and spiritual resources". Though the major cause of carcinomas of breast is obscure, many risk agents that have specificity have been recorded. Enumerates list of factors "cigarette-smoking, alcohol use, and diet" could varied and rely on life style. On the other hand, another agent "age, race, gender, and family history" documented. In addition, "hormones" play an important role in some forms of breast carcinogenesis. Here, could said such agents "aging, history of breast cancer development in family, certain changes in breasts, genetic changes, history of productivity and menopause, lack of physical activity, alcohol-use, diet and nutrition, race, and radiation therapy to chest" hazard agents of breast tumorgenesis.

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