

Histopathological Study of Breast Cancer among Women in Mosul City-Iraq

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ABSTRACT

Aim: To identify the characteristics of women with Breast cancer in Mosul city about their age at diagnosis, disease stage, grade, and type of tumor

Methodology: This study was approved by the ethical research committee at Nineveh health directorate. A cross-sectional study was carried out in the city of Mosul-Iraq, Al Khanssa teaching hospital for the period between 2019 -2020. Information related to the patients was gathered via construct information sheet. Study samples were obtained through biopsies taken from breast surgeries or mastectomy operations. The sample was preserved in formalin solution with a concentration of 10%, followed by treatment with automatic histoquinet tissue, paraffin embedded and sectioned at 3-five microns before staining with H and E.

Results: the finding of the present study shows that most women beyond to age group (40-50) years and mean age at diagnosis is 47 years. Most women were in T2, stage III, and grade III, respectively at the diagnosis. The majority of women with noninvasive ductal carcinoma

Conclusion: Breast cancer in the City of Mosul is relatively limited, but it affects the younger age group and is presented beyond the early stage with higher pathological grade.

Keywords: Breast, Cancer, Mosul, Iraq.

INTRODUCTION

Globally, unique of the mean top reason for death is Cancer. Compared to other types of malignancy disease, breast cancer is the highest threaten of women still survive¹. The early detection and management of this malignant disease are crucial to avoid the development of the disease and decrease its morbidity rates². The World Health Organization (WHO) reported that 27 million women will have breast cancer by the year 2030³. Breast cancer is a multifactorial disease and numerous factors increase the rate of its occurrence⁴. Universal, rise in breast cancer rate denotes a substantial problem on health services⁵. Despite the progress in the field of diagnosing and treating s of cancer that includes (hormones, chemical and radiological), therapists often rely and trust clinical histopathology studies⁶.

The objectives of the current study are to identify the characteristics of women with "Breast cancer" in Mosul city about their age at diagnosis, disease stage, grade, and type of tumor.

METHODS

This study was approved by the Ethical Research Committee at Nineveh Health Directorate (ERCNHD). A descriptive design was carried out in Mosul city, Al Khanssa teaching hospital for the period between 2019 - 2020. Information related to the patients was gathered via construct information sheet. Study samples were obtained through biopsies taken from breast surgeries or mastectomy operations. The sample was preserved in formalin solution with a concentration of 10%, followed by treatment with automatic histoquinet tissue, paraffin embedded and sectioned at 3-five microns before staining with H and E. According to WHO classification, all slides have been reviewed. According to Elston-Ellis criteria, the

tumor grading was done using measuring three predominant elements: "nuclear morphology (nuclear pleomorphism), differentiation (tubule formation), and proliferation (mitotic frequency) in line with the Nottingham grading system (NGS)".

RESULT

The result of the current study shows that most the women beyond to age group (40-50) years and mean age at diagnosis is (47) years. Most of the women were in T2, stage III, and grade III, respectively at the diagnosis. The majority of women with noninvasive ductal carcinoma.

Fig.1: Distribution of women according to their age at diagnosis

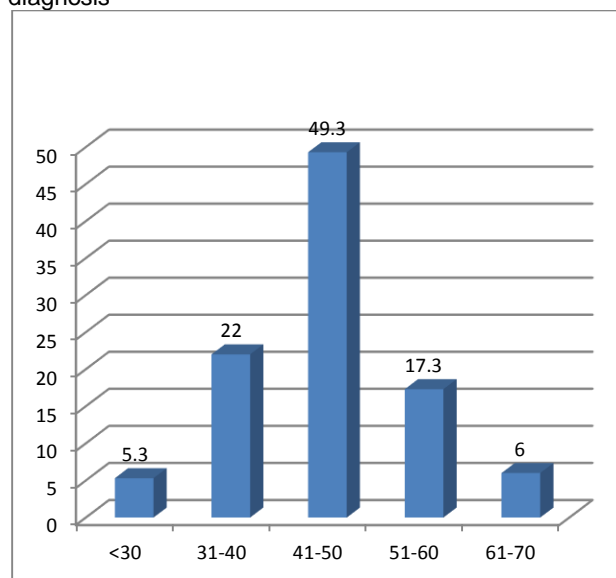


Fig. 2: Distribution of women according to tumor size

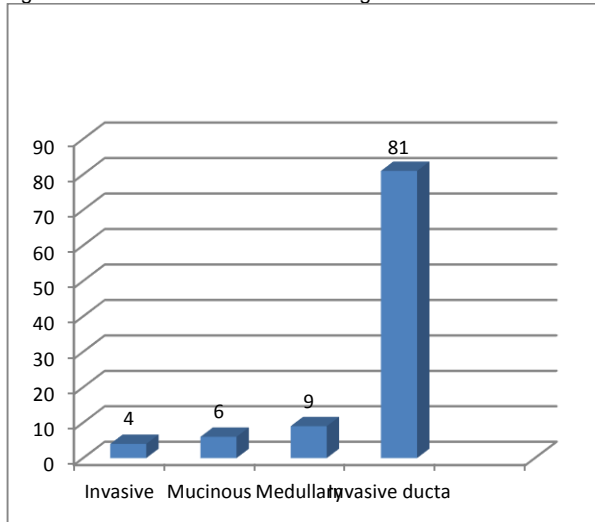


Fig. 3: Distribution of women according to their cancer size

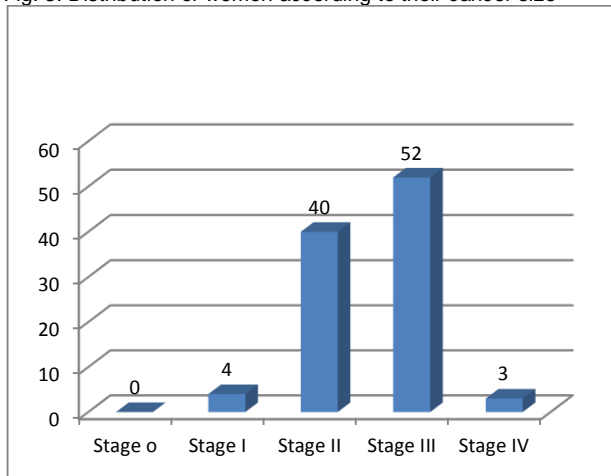


Fig. 4: Distribution of women according to tumour grade

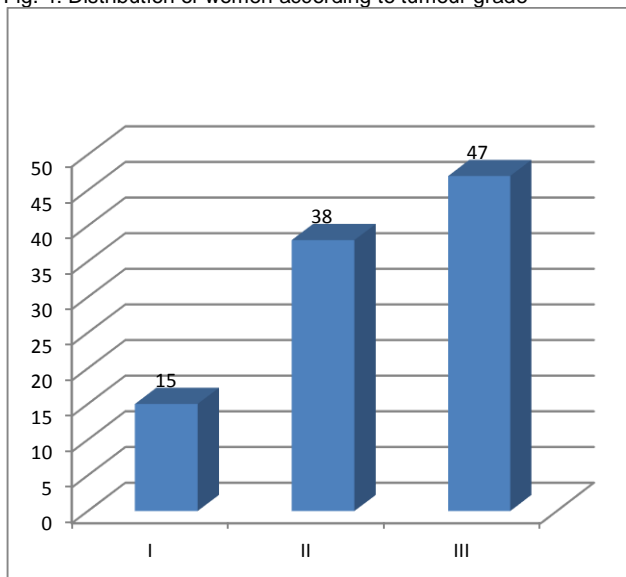
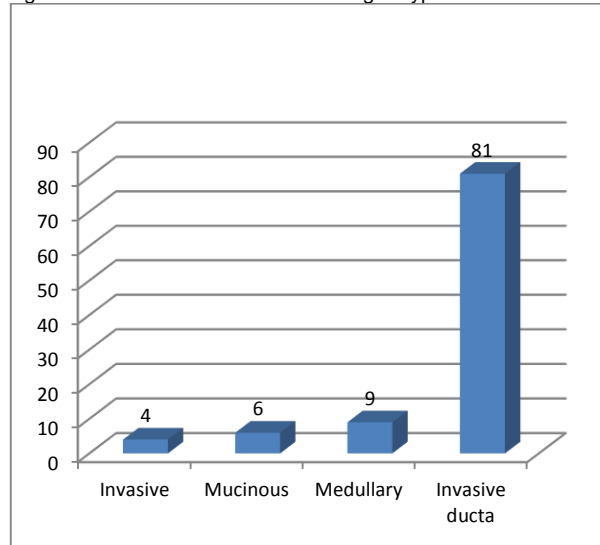


Fig. 5: Distribution of women according to types of carcinoma



DISCUSSION

Centers for Disease Control reported that women over 55 years old are more risk to had cancers and it is expecting to elevate the number of new cases among Americans in the next few years. In Iraq, The World Health Organization estimated the number of breast cancer for the last five years (1300) for the year 2018. This result highlights that the mean age of women at the diagnosis is 47 years which is confirmed by an earlier stud conducted in Mosul City⁷ and another study that applied in Al Ramadi city the center of Al Anbar Province -west of Iraq⁸. The occurrence of Breast cancer among women in early age at diagnosis is not clear when compared with western women, although there are some clarifications. Initially, the physiological variances between women in Western countries and the Middle East. Second, there is no health policy for breast cancer City of Mosul like developed countries. For example, European women more than 45 years old referral for mammography every two years. As a result, more young-aged women were affected. Third, nutritional and quality of life, as well as the environmental factors, differ from developed countries. Among women under the age of 55, breast cancer appears to play a sigmoid role, with 6.6% of all cases diagnosed before age 40 years, 2.4% diagnosed before age 35, and 1% diagnosed before age 30⁹. Consistently, a study found that the mean age Britain women of at diagnosis was (46 years)¹⁰. Another study in Pakistan shows that the median age of the patients was 46 years with a majority between 36 and 45 years of age¹¹. In agreement with the finding of the present study another study applied in Iraq⁸. This study revealed that (12.7%) are Grade (I), (44.5%) Grade (II) cases, and (42.8) Grade (III) cases, and it revealed that Grade III cases¹², the foremost tumor type was infiltrative ductal carcinomas. Our study comes in agreements with Alwan et.al study¹³ that concluded that the surprising discrepancies between Iraqi and British patients in the clinical and tumor characteristics of carcinoma indicate variability within the underlying tumor biology, compounded in Iraq by the delayed diagnosis problem. The major ethnic differences in breast cancer

profiles recommend the rapid reinforcement of Iraq's national cancer control program as a primary approach to disease management. The breast cancer types divided into two types, Non-Invasive and Invasive Breast Cancer, according to the site¹⁴. Lobular in situ carcinoma (LCIS) is less common and is considered a marker for increased risk of breast cancer¹⁵. Invasive breast cancer cells bursting through the duct and lobular wall and entering the adjacent fatty and connective breast tissues¹⁶. Cancer can be invasive without being metastatic (spreading) to the lymph nodes or other organs¹⁷. In this study, mucinous tumors were found in 7.5%²⁰ and there is an association with women age >45. One of the particular Positive prognostic features is Pure mucinous in women with breast cancer¹⁸⁻²¹. Mucinous breast carcinoma is detected via palpation in around half of the women with Breast cancer, whereas in asymptomatic cases the cancer is diagnosed after mammographic screenings^{20,22}. The majority of MC (89%) had desirable clinicopathological characteristics at the early stages (I and II). However, in this sample, which was much younger than in a survey of women in developing countries, the mean age at diagnosis of MC was forty-eight years. Previous research suggested that women older than 60 years were diagnosed with MC. Breast cancer incidence rates have increased significantly in recent years in the city of Mosul. The average age of affected women⁴⁷ also increased significantly during the current decade. within last ten years ago, the mean age of women with breast cancer at diagnosis is⁴⁷. There was a similar tendency among the women had MC. Due to limited described cases, further studies needed to clarify the genetic and environmental factors and pathological features of women in City of Mosul.

CONCLUSION

Breast cancer in Mosul City is comparatively small, but affects the younger age group and is diagnosed with higher rates of pathology in the early stages.

Recommendation: This study findings support growing efforts to establish systematic programs for the management of breast cancer in Iraq.

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Ethical consideration: Before data collection, official permission was obtained from the Ministry of Education/ Nineveh Directorate, and Written approval of participants was obtained before the start of data collection.

Conflicts of interest: Nil

Source funding: Self

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