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Prevalence study of breast cancer in female's age 20y to 30y (below 40) with female patients aged above 40 years

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Abstract

This study is to assess the prevalence of breast cancer in patients below 40 years of age (20y and 30) as comparing with patients above age of 40. The most frequent malignancy among women is breast cancer, and increase incidence of breast cancer in women aged between 20y-30y have been in the last few years. Increase incidence can be explained partly due to early detection of cancer in young age group but other risk factors cannot be ruled out. This study includes the histopathology of the tumor in the two above groups, behavior of the tumor, metastasis to other sites, survival rates and risk factors. This study is to prove the increased number of breast cancer below age of 40 years and type of cancer behavior that is the tumor is more aggressive invasive with early metastasis and poor Survival rate. One hundred cases of breast cancer were collected in Nineveh city between 2018-2020. Twelve patients out of 100 patients women aged between 22-39 years and 88 patients' aged between 40-79 years old, all 100 patients diagnosed for the first time during examination by screening tools (ultrasound, mammography and MRI if needed), proved by histopathology , all of them underwent mastectomy except one female patient aged 22 years beyond surgical treatment.

Keywords: Breast, breast cancer (BC), histopathology

Introduction

Women under the age of 40 may believe that they are not at risk for breast cancer. because they feel that breast cancer affects order women above 50 or 60 years old, also they think that treatment of BC can lead to infertility. Diagnosis can be more difficult in young age group (20y - 30y) due to high density of breast tissue so mammography can't detects the cancer ^[4, 5]. Family history of BC puts women at increased risk, as do close relatives with breast cancer, mothers, sisters, male breast cancer, history of chest radiation therapy, pancreatic cancer, or metastatic prostate cancer. BC in younger women is likely to be more aggressive and resistant to treatment ^[6, 7]. Many health care provider and some doctors not specialized in this field may else dismiss breast lumps or other symptoms in young women ^[8, 9]. Even some of the doctors may treat skin changes in the breast (edema and redness) as a type of skin inflammation all these resulting in a late diagnosis and poor outcome. BC provides additional hurdles for younger females because it can cause infertility and interfere with conception after therapy ^[10].

Results

The 12 patients diagnosed for the first-time during examination 3 patients have advanced breast cancer (stage 4). first patient aged 22 years the youngest patient unmarried no family history of breast cancer her mother told me she felt abnormal thing in her breast 8 months ago and she refused to contact any doctor during examination the breast was totally replaced by cancer with big ulceration about 15 cm in diameter, there is no areola or nipple with bleeding and axillary mass. Second patient 35 years old married and has three children, she was on contraceptive pills for one year, came with big mass in her breast five months ago, the mass involving most of the breast with skin involvement peau d'orange and redness of the skin with axillary mass, it is also stage 4. The third patient came with breast mass and liver metastasis two nodules in the right lobe of the liver, six months ago, she was married and has four children -no history of contraceptive pills- no family history of breast cancer- also diagnosed as stage 4 cancer, the 12 patients all presented by breast mass except one patient presented with bloody nipple discharge all are premenopausal, 3 patients out of 12 patients have positive family history, axillary mass in two patients.

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Histopathology: Nine patients have invasive ductal carcinoma, three patients have invasive lobular carcinoma, eight patients, the cancer involved the right breast, four patients, the cancer involved the left breast, The remaining 88 patients aged 40y TO 76y all presented by breast mass at the time of diagnosis. The

table one below illustrate the age incidence, presentation, histopathology, family history, contraceptive pills use, axillary mass, metastases, parity and breast involvement (right or left) in the 88 patients above 40 years of age.

Table 1: Age incidence, presentation, histopathology, family history, contraceptive pills use, axillary mass, metastases, parity and breast involvement.

Age incidence	40y to 76 years
Presentation	All presented with mass in the breast at time of examination
Right or left breast	48 patients, the right breast was involved – 40 patients the left breast was involved
Axillary mass	30 patients had positive axillary mass
Family history	16 patients had positive family history of breast cancer
Contraceptive pills	22 patients receive contraceptive pills for different periods
Parity	78 patients were multiparous – 10 patients were nulliparous
Histopathology	76 patients were proved to have invasive ductal carcinoma – 22 patients were proved to have invasive lobular carcinoma
Distant metastasis	There was no distal metastasis
Surgery	All patients underwent modified radical mastectomy.

Table 2: Age incidence, presentation, histopathology, family history, contraceptive pills user, axillary masses, metastases, parity and breast involvement (right or left) in the 12 patients below 40 years of age.

Age incidence	20 - 39 years
Presentation	11 patients presented with mass in their breast at time of diagnosis – one patient presented with bloody nipple discharge
Right or left breast	8 patients, the right breast was involved – 4 patients the left breast was involved
Axillary mass	Only two patients have axillary mass
Family history	Only three patients had positive family history of breast cancer
Contraceptive pills	One patient receives contraceptive pills
Parity	One patient was unmarried – 11 patients were multiparous
Histopathology	9 patients were proved to have invasive ductal carcinoma – 3 patients were proved to have invasive lobular carcinoma
Distant metastasis	One patient had distal metastasis to the liver
Surgery	11 patients underwent modified radical mastectomy, 1 patient beyond surgical treatment

Discussion

In this study carcinoma of breast in women below 40 years (between 20s and 30s) were 12 patients out of 100 patients, this indicate the high prevalence of BC in young age group below 40 years of age, In recent years, increase BC has been documented in women under the age of 40. In previous years, in many countries the percentage was 5%, but this percent is increase world widely at time of diagnosis in the recent years [11, 12]. In USA, increase incidence of breast cancer in young women about 1.3 percent each year (invasive breast cancer), based on a high number of patients, this incidence in females under the age of 40 in the United States between 1990 and 2004 cannot be regarded a chance fluctuation [13]. BC incidence appears to be increasing by about 3% and 1% per year in women aged 20-29 and 30-39 years at cancer diagnosis, respectively, according to an analysis of breast cancer incidence trends among young women in seventeen European cancer registries from 1995 to 2006 [14]. These average annual gains are statistical significance, and they do not appear to be influenced by cancer registries with a high or low number of participants (sensitivity analysis). Breast cancer incidence increased by roughly 2% in females aged 25-39 years in Switzerland among 1995 and 2005, according to the Swiss cancer registries. An incidence of about 8.7% in Geneva, this indicate a particularly increase incidence of breast cancer was observed between 2002-2004 [15, 16]. In general, young females have a poorer 5-year survival rate than women aged 40 and up. From 2013 to 2017, the relative 5-year survival rate for women aged (20-39) was 89.6%, compared to 93.4 percent for women aged (40-59) [17, 18]. In our society there are very old customs and traditions passed from one generation to the next. Women have a special status in this society. Chastity and shyness are characteristic of those women. Hence, they would very much

object to being examined by a male doctor, particularly when breast examination is required. When a woman feels that something is not normal in her breasts, she would not inform anyone regardless being single or married. She wouldn't even tell her mother or sister as she feels embarrassed. Also, she tries to convince herself that a lump or unusual breast excrements could not be related to breast cancer. In addition, most women believe that breast cancer affects only women aged fifty years or older. This, in fact, leads to a delay in the diagnosis of breast cancer where in many cases the cancer may have reached stage four. Furthermore, medical doctors who are not specialists in this field, may give their patients the wrong diagnosis, thus causing them to be relieved and convinced that they are cancer-free. In order to solve this dilemma and help women fight this disease, it suggested that specialized doctors conduct public seminars for women aged 20-39 years. This will educate women and raise their awareness regarding this dangerous disease. However, if breast cancer does develop, early detection and treatment can improve a woman's chances from survival dramatically. More than 90% of women with BC who are diagnosed early will live. We have two groups of patients, women with low risk of breast cancer (no family of breast cancer and other factors) those women should encourage them for self-examination of the breast at least every 6 months (twice yearly) because other screening tools are not recommended for women under 40 years old (mammography, ultrasound, MRI), those patients should know the normal texture of the breast, so during self-examination of their breasts, they can detect any abnormality in their breasts like;

1. Lumps
2. Nipple discharge,
3. Focal pain

4. Skin changes (redness, itching in the areola)

If they found any abnormality in their breasts, they should contact a specialized doctor in this field or Health care centers for other screening tools. The second group of patients with high risk factors (family history, personal history, genetic mutations), those patients should have screening tests like (mammography, ultrasound, MRI) and Carcinoma screening is commonly started 10 years before first impacted member in the family in females with a family history of BC. Breast MRI is frequently suggested to high-risk women in addition to mammography^[28, 29].

All females can minimize their risk of BC by doing the following steps:

1. Achieving and maintaining ideal body weight^[30].
2. Getting regular exercise
3. Breastfeeding^[31].

In this study, we don't attempt to find the incidence of BC in young women below the age of 40s (mostly between 20 to 30 years) as we should have a large number of patients. However this study confirms the high prevalence of breast cancer in the young age group below 40 years of age in many parts of the world. In our study all patients presented had a breast lump except one female with bloody discharge from the nipple those patients discovered the breast lump accidentally but ignore it and

never told any relative. Most patients try to convince themselves that this lump or any abnormalities in their breasts are not related to breast cancer, until the lump increases in size or other signs of cancer appeared like axillary mass or redness and edema of the skin. At that stage, then, they consult a doctor. This mass or any abnormality in the breast may persist for few months (4,6,8 months) before they consult a doctors. This leads to delay in diagnosis with poor outcome after treatment and low survival rates. Breast cancer is more prevalence in women aged (20-30) than in women aged (30-39) even if there is no high risk factor (family history, personal history) it is widely known that risk agents for premenopausal and postmenopausal BC do not totally coincide, therefore it could be the result of broad exposure of young females (20-30) to variables impacting the danger of premenopausal BC. Obesity, for example, is a risk factor agent for postmenopausal BC, and parous women have a greater BC risk than nulliparous women before menopause. Early births are not protective, and current oral contraceptive users have a greater risk of BC than never users. If the BC incidence among young females (20-30 years old) continues to rise, screening procedures for breast cancer detection that are now used in young women, and rely on mammography, ultrasound, and/or MRI, will become less effective.

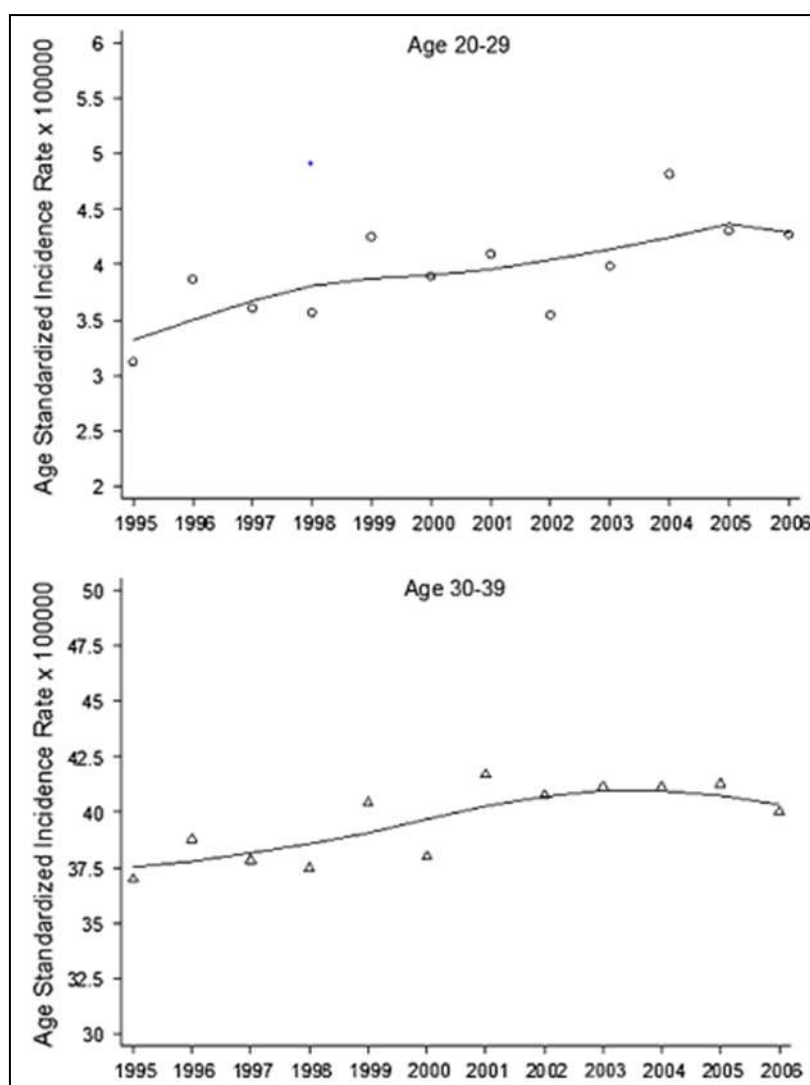


Fig 1: Lowess smoothed age standardized breast cancer incidence rates among women aged 20-29 and 30-39 years at diagnosis (1995-2006), pooled European registries

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