The patterns and age distribution of breast cancer in South Yemen

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Abstract

Breast cancer is the most common malignancy type diagnosed in women in developed countries and the second most common type diagnosed in developing countries.

The aim of this study is to determine the pattern of breast cancer, to correlate the age distribution with the histological subtypes, and to compare our study with other geographic regions.

It is a retrospective study, the data were collected from the records of the cancer Registration Center including 489 breast cancer patients during 10 years from(2002-2011).

The most common subtype of breast cancer was invasive ductal carcinoma (88.1%), followed by invasive lobular carcinoma (7.0%). The mean age of the patients with breast cancer was 49.5 ± 10.7, the common age group was (63.0%) between 30-50.

Invasive ductal carcinoma is the commonest histological subtype affecting young to middle age group, while invasive lobular carcinoma is the commonest histological subtype affecting older age group.

Keywords: breast cancer, histological sub types, age, south Yemen.

Introduction

Breast cancer is the most common malignancy type diagnosed in women in developed countries and the second most common type diagnosed in developing countries (25,16,14).

According to the World Health Organization (WHO), each year over 1.4 million women worldwide are diagnosed with breast cancer as it accounts for 23% of all newly diagnosed cancer.(15)There is a marked geographical variation in incidence rates, being the highest in the developed world and the lowest in the developing countries in Asia, Middle East, and Africa (27).

In recent years, the incidence of breast cancer has shown an alarming increasing trends.(23,27)An estimated 1.7 million women will be diagnosed with breast cancer in 2020—a 26% increase from current levels, mostly in the developing world (14).

The most widely cited reason for the global increase in breast cancer is the "westernization" of the developing world (23).

According to the International Agency for Cancer Research and GLOBOC AN 2008, in the Gulf Cooperation Council (GCC), countries breast cancer incidence rates are the highest in Bahrain (49.8/100,000), followed by Kuwait(47.7/100,000) and Qatar (38.1/100,000), compared to other Arab peninsular countries, such as Saudi Arabia(22.4/100,000) or Yemen (20.8/100,000).(15)In 2014. Bawazer (3) found that 29.9% of Yemeni women had breast cancer and the more affected age was 25-69 years (3).

A variety of constitutional risk factors have been reported, such as null parity, early onset of menarche, delayed first birth, late menopause, and decreased parity. These risk factors point towards endogenous estrogens as likely players in the initiation, progression, and promotion of breast cancer. other established risk factors are previous documented, like family history, genetic and breast tissue density (21,20,5,19,11).

Despite the fact that there is scary of data regarding breast cancer in the Arab World and developing countries, one can speculate that the incidence of breast cancer to be very high and is rising at a faster rate. Furthermore, it has been concluded in one particular study that, in most of the developing countries, patients will seek medical advice and treatment from such problem when it is in an advanced stage and little or no benefit can be expected from any sorts of therapy (7, 13).

The increased breast health awareness has great potential for improving the outcome of breast cancer patients (4).It is important to be mindful that the great majority of women in the world, in

whom breast cancer is diagnosed each year, are symptomatic at the time of diagnosis, and that the majority of women in the world do not have access to screening mammography(17).Thus, based on the observation of the association between tumor size and prognosis, it should be clear that the goal of early detection is not simply the goal of detecting a greater proportion of breast cancers when they are asymptomatic, but also downsizing symptomatic breast cancers as well (10).

The aim of this study is to determine the pattern of breast cancer and to correlate the age distribution with the histological subtypes and to compare our study with other geographic regions.

Patients and methods:

A retrospective study was done, data were collected from the records of the Cancer Registration Center including 489 breast cancer patients, during 10 years from (2002-2011) Aden governorate were reviewed to identify all patients with breast cancer and were classified according to WHO. The data were processed through SPSS program version 19 and tables were prepared to summarize the results.

Results

The most common subtype of breast cancer was invasive ductal carcinoma (88.1%), follow by invasive lobular carcinoma (7.0%), papillary carcinoma (1.8%), Medullary carcinoma (1.4%), Mucinous carcinoma (1.2%),Tubular carcinoma and phyllodes. (o.2) each. (Table No.1)

Table No 1:Distribution of histological type

Histological subtypes	No	%
Invasive ductal carcinoma	431	88.1
Invasive lobular carcinoma	34	7.0
Tubular carcinoma	1	.2
Mucinous carcinoma	6	1.2
Medullary carcinoma	7	1.4
Papillary carcinoma	9	1.8
Phyllodes tumor	1	.2
Total	489	100.0

The mean age of the patients with breast cancer was **49.5 ± 10.7,** the most common age group affected was (63.0%) between 30-50, followed by the age more than fifty (35.4%) and (1.6%) found in patients with age less than thirty. (Table No.2)

Table No 2:Distribution of age groups

Age group	No	%
<30y	8	1.6
30-50y	308	63.0
>50y	173	35.4
Total	489	100.0
Mean & SD	**49.49±10.684**	

Invasive ductal carcinoma represented (65.0%),(100.0%) Tubular carcinoma, (66.7%) Mucinous carcinoma, (71.4%) Medullary carcinoma (100.0%) Phyllodes carcinoma were found in age group 30-50y, while (55.9%) invasive lobular carcinoma and (66.7%) Papillary carcinoma found in age >50y.A significant association was found in invasive ductal carcinoma and lobular carcinoma. (Table No.3)

Table No 3:Distribution of histological subtypes according to age groups

Histological types	Age groups			P value
	<30y	30-50y	>50y	
Invasive ductal carcinoma	7	280	144	**0.017**
	1.6%	65.0%	33.4%	
Invasive lobular carcinoma	0	15	19	**0.008**
	.0%	44.1%	55.9%	
Tubular carcinoma	0	1	0	**0.487**
	.0%	100.0%	.0%	
Mucinous carcinoma	0	4	2	**0.961**
	.0%	66.7%	33.3%	
Medullary carcinoma	0	5	2	**0.757**
	.0%	71.4%	28.6%	
Papillary carcinoma	1	2	6	**0.124**
	11.1%	22.2%	66.7%	
Phyllodes	0	1	0	**0.487**
	.0%	100.0%	.0%	
P value	**0.871**	**0.014**	**0.015**	**-**

Calculated by mann-whtiney u test.   p<0.05 is statistically significant
Percentage calculated by row.

Discussion

The incidence of breast cancer is rising worldwide. The mean age in Dibrugarhand Kapil AH was 49.6 and 51 years (22,16) and in India, it was 46.8 years (18) .In the current study the mean age of the breast cancer at presentation was 49.5 year.

In our study, women of the middle age group (30-50 years) were at a higher risk of developing breast cancer. Dikshit , et al (9), Kapil et al (16)and Bawazer (3) found that, in women aged 30–69 years, 30-70 and 25-69 years respectively, the most common fatal cancer was breast cancer (9,16,3) Bogarapu1et al (6)and Laishram(18)**,**also found that more than (50%) of breast cancer was found in age between 30-59 and 31-50 years.

It has been well documented that histological type is one of the major prognostic factor. The most common histological type was invasive ductal carcinoma. This finding is similar to local and international studies. The National Cancer Registry Programme revealed that, in Mumbai, Banga-lore, and Thiruvananthapuram, invasive duct carcinoma was the most common histological type.(22)Saxena et al(26), Kapil (16), Qureshi et al(24), Aslam et al(2), Al-Shawi (1) and Boga(18) Rama et al(25) also reported similar findings. In the US population, Final and,(12) and Nigeria (8),also LaishramRS found the same result. However, in the current study, invasive lobular type of breast carcinoma was found to be the second most common. Lobular carcinoma was the second histological type of breast carcinoma in Laishram(18) and Kapil (16), the other subtypes was found in small percentage which was similar to   the study of Laishram(18), Kapil (16) and Bogarapul et al (6).

Conclusions:

Breast cancer is the most common cancer affecting women in South Yemen. Invasive ductal carcinoma is considered the commonest histological subtype affecting young to middle age group, were as invasive lobular carcinoma is the commonest histological subtype affecting elder age group.

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الأنواع والتوزيع العمري لسرطان الثدي في جنوب اليمن

نفيسة عوض منصور
قسم علم الأمراض/ كلية الطب و العلوم الصحية/ جامعة عدن

الملخص

يعد سرطان الثدي من الأنواع الخبيثة الأكثر شيوعاً الذي تم تشخيصه بين نساء الدول المتقدمة، وهو أيضاً النوع الثاني الأكثر شيوعاً الذي تم تشخيصه بين النساء في الدول النامية.

هدفت الدراسة إلى تحديد نوع سرطان الثدي وارتباطه بالتوزيع العمري مع الأنواع الفرعية النسيجية ومقارنة دراستنا مع المناطق الجغرافية الأخرى.

هذه الدراسة هي دراسة استعادية، تم جمع البيانات من سجلات مركز تسجيل السرطان حول 489 مريض بسرطان الثدي، خلال عشر سنوات من عام 2002-2011

أظهرت نتائج الدراسة بأنّ النوع الفرعي الأكثر شيوعاً هو السرطان القنوي الغزوي أو المتسلل بنسبة 88.1 %، يليه السرطان المفصص الغزوي بنسبة 7.0 %. و متوسط عمر المرضى ومعيار الانحدار بسرطان الثدي هو 49.5 ± 10.7. و ان أكثر الفئات العمرية بين 30 – 50 بنسبة 63.0 %.

يعد السرطان القنوي الغزوي هو النوع الفرعي النسيجي الأكثر شيوعاً المؤثر على الفئة العمرية الشابة إلى المتوسطة في حين يعد السرطان المفصص الغزوي هو النوع الفرعي النسيجي الأكثر شيوعاً المؤثر على الفئة العمرية الأكبر سناً.

الكلمات المفتاحية: سرطان الثدي، الأنواع الفرعية النسيجية، العمر, جنوب اليمن.