

Breast Cancer among Patients Admitted into Al-Thawra Teaching Hospital in Sana'a, Yemen

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Abstract

Breast Cancer continues to be a major cause of morbidity and mortality worldwide. It is the most frequent malignancy among women in the developed countries. This study was carried out in oncology unit at Al-Thawra Teaching Hospital-Sana'a-Yemen, to recognize the clinical feature, histopathological types and outcome of breast cancer. During 5- year study period (March 2006 –February 2010), 245 patients admitted into hospital with confirmed histopathologically breast cancer. From hospital record we reviewed the demographic data, clinical manifestations and histological characters and outcome of patients. Of two hundred and forty (98%) were female and only 5 (2%) **male** patients. The mean age of patients with breast cancer was 49 ± 8.2 years. The peak incidence occurred in the age group of 30-50 years, affecting 205 (83.67%). The common presenting symptoms and signs were painful breast lump and axillary painful mass presented in all patients. 83.67% of the patients had left side breast cancer.

Lymph nodes, lungs, liver and bones were the common sites of breast cancer metastasis accounted for (100%, 81.63%, 80.81%, 77.55%) respectively. The most frequent histological type was infiltrated ductal carcinoma represented 68.16%. All patients presented in advanced stages, (stage III 44.89% and stage IV 68.16%). The mortality rate of breast cancer in this study reached into (22.44%) .

Conclusion: Breast cancer is frequently seen in our unit. Yemeni patients seek medical advice in advanced stage of the disease where the benefit of therapy is minimal and targeted only the improvement of the quality of life.

Introduction

Breast Cancer continues to be a major cause of morbidity and mortality worldwide. It is the most frequent malignancy among women in the developed countries and also in other nations⁽¹⁾. In the United States, the most common malignancy in females is breast cancer .According to the American Cancer Society, about 1.3 million American women annually are diagnosed with breast cancer and about 465 000 die from the disease⁽²⁾ .

Several reports from Gulf countries and Yemen had reported that breast cancer was the most frequent cancer affected women. In Saudi Arabia carcinoma of

the breast ranks first among malignant tumors affecting females⁽³⁻⁶⁾. However, a study conducted between (1982-1992) **in Giza province in Saudi Arabia, showed that breast cancer constituted the fourth most common malignant tumors among Yemeni and Saudi females treated in that province**⁽⁵⁾.

A study in United Arab Emirates reported that, breast cancer was an important health problem and considered as the most common malignancy among female patients⁽⁷⁾.

In Yemen, the lack of a definitive catchments area for each health institution and the lack of a proper and defined referral system for each district hinder epidemiological studies at single institution. These factors plus the lack of a National Cancer Registry make it difficult to determine the real incidence and prevalence of breast cancer in Yemen. However, limited studies were carried out and indicated that breast cancer was frequent cancer among Yemeni females. Aulqi et al in their study in Yemen conducted between 1982-1992 showed that breast cancer **ranked the third common cancer in Yemeni women, after cancer of the genital tract and lymphomas, represented 7.64% of female cancers**⁽⁸⁾ .

Another study conducted by Al-Thobhani A.K et al during 1999-2000 reported that breast cancer ranked first cancer among Yemeni women represented of 15.36% of all female cancers⁽⁹⁾.

This study was taken to describe the pattern of breast cancer among patient admitted into Al-Thawra Teaching Hospital. This hospital is a well equipped with modern medical care facilities and act as a main referral hospital receiving patients from all parts of Yemen.

Patients and Methods

The data was collected from patients presented to Oncology Unit at Al-Thawra teaching hospital during March 2006 –February 2010. All Patients with breast cancer attended the Oncology Unit in our hospital were subjected to the following procedures;- 1- history taken included age, sex, marital status, parity, age of menarche, age at first pregnancy, duration of breast feeding, age at menopause, family history for cancer, and type of treatment.2- clinical examination ,site of tumor , it's metastasis and histopatholigical type of tumor. All patients underwent the following investigations; complete blood picture,

liver and renal function tests, chest x-ray, mammography, Ultrasonography and brain CT scan. **Informed consent was taken from each patients ,participated in this study at the time of admission** .

The diagnosis of breast cancer in our study was made histopathologically, by examination of specimens taken through True-cut needle biopsy in 210 (85.71%) patients, fine needle aspiration in 25 (10.20%) patients and 10 (4.08%) patients by axillary lymph node/s biopsies .

Staging of the disease at presentation was categorized based on TNM staging system of the Union International Contre le Cancer (UICC) ⁽¹⁰⁾.

Surgical management either modified radical mastectomy, simple mastectomy or lumpectomy was done and recorded. Postoperatively, the patients received hormonal therapy and chemotherapy consisted of CMF regimen (Cyclophosphamide, Methotrexate and 5-Flourouracil) or CAF regimen consisted of (Cyclophosphamide, Doxorubicin and 5-Flourouracil) ^(11, 12).

Some patients were referred abroad for radiotherapy due to the non-availability of this type of therapy in our country.

All data were recorded and entered into Personal computer. Statistical analysis of results was done by SPSS program. Mean and standard deviation were calculated and P value of 0.05 was taken as significance.

Results

A total of 245 cases of breast cancer were diagnosed in the period of March 2006 –February 2010, with the mean of 64 cases/ year. The majority of patients were females 240 which represented 98% and a minority of the patients was males, 5 cases only represented 2% of the total cases.

The age of the patients at diagnosis ranged between 20-70 years with a mean of 49 years. The most involved age groups were between 30-50 years comprised of 83.67% of the patients. The other age groups involved are illustrated in (table 1).

Table 1: Distribution of breast cancer according to age of the patient at the time of diagnosis

| Age group in years | No. of Patient. | Percentage |
|--------------------|-----------------|------------|
| 20-30 | 22 | 8.98 |
| 31-40 | 85 | 34.69 |
| 41-50 | 120 | 48.98 |
| 51-60 | 10 | 4.08 |
| >60 | 8 | 3.27 |
| Total | 245 | 100 |

The study of the laterality of the disease showed that the majority of patients 205 (83.67%) had left breast cancer, Involvement of the right breast was found in 38 (15.5%) patients. Only 2 (0.82%) had bilateral involvement.

All patients in the study presented to our unit complaining of painful breast lump and axillary painful mass. In addition to the above- mentioned clinical manifestations, some patients presented with watery and/or bloody nipple discharge and/or retraction, skin retraction, erythema and oedema. The majority of patients 240 (98%) also presented with arm swelling, table 2.

Table 2: Clinical features of the patients presented with Breast Carcinoma

| Clinical feature | No. of patients | Percentage |
|------------------|-----------------|------------|
| Breast lump | 245 | 100 |
| Breast Pain | 245 | 100 |

| | | |
|------------------|-----|-------|
| Axillary mass | 245 | 100 |
| Arm swelling | 240 | 98 |
| Skin retraction | 145 | 59.18 |
| Nipple discharge | 45 | 18.36 |

Clinical examination of the lymphatic system revealed that the lymph nodes at presentation were palpable in the majority of patients 186 (75.91%). Most of them 230 (93.87%) had nodal size of 2-5cm in diameter. In a minority of patients with palpable lymph nodes 15patients (6.12%) had the diameter of the lymph nodes of >5cm.

Those patients with impalpable lymph nodes represented 24.08% (59) patients see table (3). the nodes, were also positive for malignancy.

Table 3: Status of the lymph Nodes

| | | |
|------------------|-----|--------|
| Palpable | 186 | 75.91% |
| Not palpable | 59 | 24.08% |
| Axillary | 189 | 77.14% |
| Supraclavicular | 125 | 51.02% |
| Nodal size 2-5cm | 230 | 93.87% |
| Nodal size>5cm | 15 | 6.12% |

Only (4) histopathological types of the tumors were found in this study. The most frequent type was infiltrating ductal carcinoma in 167(68.16%) patients. The other histopathological types are shown in (Figure I).

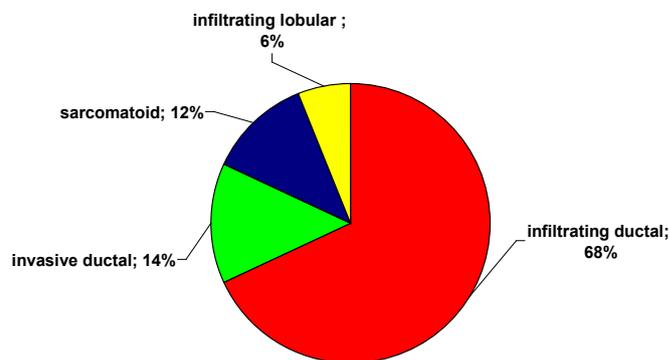


Figure 1: Histopathological types of breast cancer

At presentation all patients had advanced disease locally and distant. The majority of patients 135 (55.10%) were in stage III and 110 (44.89%) were in stage IV. No patients were found in stage II & I as it is shown in (Figure II).

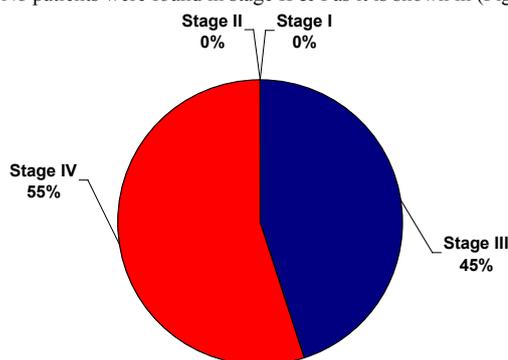


Figure 2: Stages of breast cancer at presentation

All patients underwent surgical intervention .The majority of them 200 (81.63%) had only lumpectomy while 45 (18.37%) patients had modified radical mastectomy. All patients received chemotherapy either CMF or CAF regimen. The majority of patients 215 (87.75%) received hormonal therapy in form of tablets Tamoxifen 20 mg/day. Those patients who did not receive hormonal therapy were negative for estrogen receptors and these were tested outside the country. Only 25 (10.20%) patients received palliative radiotherapy outside the country. With regards to metastasis, lymph node metastasis was detected in all patients, followed by the lungs affected in 200 (81.63%), the liver in 198 (80.81%) and the bones in 190 (77.55%) patients. The other organs such as pleura, brain, skin, kidneys and uterus in female were the sites of breast metastasis affected in different proportions .

The outcome of the patients with breast cancer is shown in figure (III). The mortality rate reached into (22.44%) .

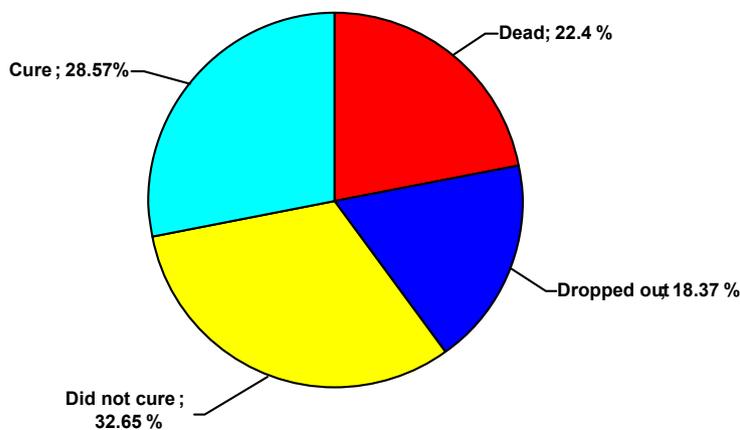


Figure 3: Outcome of the patients with breast cancer

Discussion

Data from registry of Al-Thawra Teaching Hospital have shown that breast cancer is the first common malignancy among Yemeni women admitted to the hospital. However, the incidence of cancer in general and of breast in particular, is not yet known in Yemen, due to lack of population-based Regional or National Cancer Registry. Our data showed that breast cancer is dominantly, a disease of women representing 98% of patients. The female/male ratio is 48:1. This result is similar to data from Egypt, where female breast cancer ranked the first among all cancers, contributing to 45.6% of female cancers. While the frequency of male breast cancer reached only to 2.2 %. Also they found that female/male ratio was 44.4:1 ⁽¹¹⁾. However these figures are high if compared to data reported from USA, where the female/male ratio accounted for 100:1 ⁽¹²⁾. This big difference was attributed to an excess of estrogen resulting from Schistosomiasis, a liver disease caused by parasites or malnutrition. The age of the patients in this study ranged from 20-70 years with a mean of 49 years. These results are nearly similar to the result reported from Middle East countries. In Saudi Arabia it was reported that the mean age of breast cancer occurred at the age of 48 years ⁽¹³⁾. Other reports from Jordan and Kuwait indicated that breast cancer occurred about one decade younger than the age of patients in western countries ^(6, 12-17). This could be due to the demography of the Arabic population, which is characterized by a predominance of a younger population.

In this study the most frequent symptoms and signs at presentation were painful breast mass, and painful axillary mass in all patients. Arm swelling was found in 240 (98%) patients. Nipple and skin retraction was remarked in 145 (59.18%) patients. This results indicated that women in our community seek medical care late when the disease reached in advancing stages, where metastasis and complication became very common and condition very advanced.

The most frequently involved breast in this study was the left sided presented in 205 (83.67%) patients, while 38 (15.51%) patients had right breast involvement. Only 2(0.82%) patients had bilateral breast disease. In comparison with patients in Saudi Arabia, the disease affected the right breast in 60% and the left breast in 38.7% of patients and involvement of bilateral breasts was reported in only one patient ^(13, 15). In the USA breast cancer is more likely to occur in the left breast ⁽¹⁸⁾. These results do not suggest any prognostic significance. However, collaboration research between Yemen and neighbor countries is needed to clarify these differences.

The frequently involved organs by breast cancer metastasis in this study were the lymph nodes, the lungs the liver and the bones in decreasing order. These are the same organs mostly involved by breast cancer metastasis mentioned in the literature review ^(2, 18, 19).

The most frequent histopathological types of the breast tumors in this study were infiltrating ductal carcinoma followed by invasive ductal carcinoma . Other histopathological types such as: medullary carcinoma and Paget's disease were not recorded. This data is corresponding to the histopathological types found in Saudi patients where infiltrating ductal carcinoma represented was the most frequent type ^(2, 19) .

Analysis of the tumor size, histopathological typing, lymph nodes involvement, and presence of distant metastasis showed that all patients in our study presented too late for medical advice in stage III &IV which are terminal stages and no patients presented in an early stage I&II that potentially curable. This may explained the high mortality rate in our cases. This figure is completely different from Saudi study where they reported that 40% of Saudi patients presented in an early stage II&I for medical consultation ^(19, 20). Our data reflect the low awareness of Yemeni women about breast cancer and the lack of medical facilities in the rural areas where the majority of our population live. However, it is not known whether these patients with advanced disease is due to the delay in presentation and seeking medical advice, (due to cultural and social customs), or to a more aggressive disease in this part of the world. The current study cannot explain the differences in trends of breast disease. Factors like age, racial, social, cultural, genetics and dietary may play a role in explaining these differences. Therefore, further combined studies are needed to elucidate the real pattern of breast cancer among Yemeni females.

Conclusion

It is concluded that breast cancer is frequently seen in oncology unit at Al-Thawra teaching Hospital in Yemen ranks as a first cancer affected female. The frequency of male breast cancer is high in comparison with western countries. Yemeni patients usually seek medical advice in very advanced stage of the disease where the benefit of therapy is minimal and targeted only the improvement of the quality of life. Further studies are needed to look for the probable risk factors for breast cancer in Yemeni people where cultural, social, and dietary customs are different.

Recommendations

1. Further study is needed to clarify prevalence, incidence and risk factors for development of breast cancer.
2. Establishment of the National Cancer Registry as soon as possible to help the researchers to evaluate the exact incidence and prevalence of cancer in Yemen particularly, the breast cancer and to help the health policy makers to manage accordingly.
3. Intensify medical education to the general population and particularly to Yemeni women, through health workers and health institutes as well as through the media and schools of girls became mandatory to reduce the diseases.

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