Presentation And Risk Factors Of Female With Breast Cancer In Najaf Governorate

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الخلاصه:

أُجريت هذه الدراسة لمعرفة العلامات المرضية وتحليل الحوادث لدى سكان النجف في محافظة النجف، حيث تم أخذ جميع المراجعات لوحدة علاج السرطان في النجف في الفترة من الأول لشهر تموز عام 2006 ولغاية أول من تموز 2007، مع استحداث كتلة المراجعات من مواجهة النجف، مع نظام لشبكة خاصة تحتوي على العمر، حالات الزوجة، المهنة، وجود الأطفال، العمر عند أول طفل، العمر عند أول دورة شهر، العمر عند آخر دورة شهر، الدخن، استخدام حدوب مناع الحمل، نسبة الكتلة الجسمانية، تاريخ العائلة لمراض سكان النجف، تاريخ العائلة لمراض سكان النجف، الأعراض الأولى للمرضية من بعد ظهور الأعراض، الوجه المكاني للمريض في النجف، نوع العلاج. أظهرت الدراسة أن عدد جميع المراجعات كان 70 حالية مرضا سكان النجف، وعلي نسبة 31.3% كانت عند عمر 41 - 40 سنة، و92% في رياض الاطفال، بينما كانت نسبة 42% نساء الأكثر من 40 - 41 أطفال. وكانت نسبة المصابات 31% يوجد مهمات (44%)، وكانت أعلى نسبة لدى المزوجات (97%)، ونسبة 42% عند أول دورة شهر بعمر 14 - 16 سنة، بينما أعلى نسبة 40% لدى النساء عند أول دورة شهر بعمر 40 - 42 سنة، ونسبة 44% من المصابات من سكان النجف البالغ الذين تراقب operational 1998، ونسبة 44% من المصابات من سكان النجف البالغ الذين تراقب operational 1998، ونسبة 44% من المصابات من سكان النجف البالغ الذين تراقب operational 1998، ونسبة 44% من المصابات من سكان النجف البالغ الذين تراقب operational 1998.

Abstract:

Aim of study: To identify the presentation and risk factors of breast cancer in Najaf governorate.

Method: Cross-sectional study of breast cancer women who attended oncology unit in Najaf between first of July 2006, and first of July 2007, all breast cancer cases (75) who visited unite and lived in Najaf governorate and formula was done for it that contain (marital status of women, age, occupation, parity, age of first child, age of menarche, age of menopause, smoking, use of contraceptive pills, body mass index, family history of breast cancer, family history of other type of cancer, symptoms, duration of diagnosis, site of cancer, type of treatment - neoadjuvant or adjuvant), and all women's without neither mammogranor nor radiation, all had medical records available, and other
information take directly from patients, the SSPS statistical program used to compare categorical variable.

Results: The accumulative breast cancer cases from first of July 2006, to first of July 2007 was 75, and highest percentage 31(37.7%) in age group 41-50 year old and more in house-wife 59(79%), and with maximum rate at Para 1-3 (40%),and 20(27%) in nilliparous, 44(59%) in non-smoker women while 70 cases in married women ,and 42 cases at age of menarche 13-14 while 20 of patients at menopausal age between 46-47 44(59%) of cases from urban, 31 cases in women with first child birth at age 19-23 years old, 32 cases at weight 71-80kilograms 39 at height 161-170 centimeters, 26(35%) occurs in women take contraceptive pills, 44(59%) happen in women lived in urban area, 11 has first degree of family history of breast cancer 6 of women with breast cancer has ovarian cancer, 95% of cases has breast lump as first presentation, 73(97%) has ductal breast cancer, 80% of women has left side breast cancer, 36 of patients take 5-6 months until diagnosis, 73 has breastectomy (adjuvant treatment).

Conclusions: The majority of women with breast cancer were presented in the 5th decade and there is may be no relation between smoking and breast cancer, most of our patients were married and house-wife and majority of these patients presented with breast lambs and mostly affected left side.

Introduction: Breast cancer is the second leading cause of cancer deaths in women today (after lung cancer) and is the most common cancer among women, excluding melanoma skin cancers, according to the World Health Organization, more than 1.2 million people will be diagnosed with breast cancer each year worldwide, and 178, 480 new cases of invasive breast cancer will be diagnosed in 2006 (1). Breast cancer death rates have been dropping steadily since 1990, because of earlier detection and better treatments. About 40, 910 breast cancer deaths are expected in 2007 (2). In Iraq, breast cancer cases have increased dramatically, especially in the 1990s, and constituted 14.3% of all types of cancers in 1997.(3,4)

Each woman's breast cancer risk may be higher or lower, depending upon a several factors, including family history, genetics, age of menstruation, and other factors that have not yet been identified.(5,6) While breast cancer is less common at a young age (i.e., in their thirties), younger women tend to have more aggressive breast cancers than older women, which may explain why survival rates are lower among younger women.(1)

Beginning at the age of 20, every woman should practice monthly breast self-exams and begin a routine program of breast health, including scheduling physician performed clinical breast exams at least every three years. As a woman ages, her risk of breast cancer also increases. About 77% of women with breast cancer are over age 50 at the time of diagnosis. Women between the ages of 20 and 29 account for only 0.3% of breast cancer cases. Beginning at the age of 40, all women should have annual screening mammograms, receive clinical breast exams each year, and practice breast self-exams every month.(7,8)

As with other cancers, breast cancer is the result of multiple genetic changes or mutations. Early mutations may be inherited (e.g., mutations of breast stem cells) or acquired (eg, somatic mutations due to ionizing radiation, chemical carcinogens, or oxidative damage). Estrogens, by their proliferation-promoting effect on the breast
epithelium later, increase the chance of DNA replication errors leading to carcinogenic mutations. Indeed, the common denominator to many of these risk factors is their effect on the level and duration of exposure to endogenous estrogenic stimulation.\(^\text{(9,10,11)}\)

Hereditary breast cancers have been thought to represent a small proportion (5-10%) of all breast cancers. However, based on new data derived from the comparison of identical and non-identical twins, up to 27% of breast cancers may be attributed to inherited factors. The mutated genes BRCA1 and BRCA2 are responsible for approximately 30-40% of inherited breast cancers.\(^\text{(10,12)}\)

**Patients and Method:**

The aim of study is to identify the presentation and risk factors of breast cancer in Najaf governorate, the data collected from patient's files who lived in Najaf and its districts (we regardless patients lived outside Najaf governorate) from first July 2006 to first July 2007 who visited oncology unit in AL-Sadder teaching hospital in Najaf governorate, and any missed data was taken directly from patients, the inclusion criteria were any woman with breast cancer diagnosed histopathologically by excisional biopsy.

The data full filled in formula which included, marital status of women, age, occupation, parity, age of first child, age of menarche, age of menopause, smoking, use of contraceptive pills, body mass index, family history of breast cancer, family history of other type of cancer, symptoms, duration of diagnosis, site of cancer, type of treatment - neoadjuvant or adjuvant.

All women's in this study without neither mammogram examination nor radiation therapy and all them still lived.

The SPSS statistical program to compare categorical variables. We developed a multivariate model using forward selection with an entry criterion of \(P \leq 0.05\) using a chi-square test.

**Results:**

The accumulative breast cancer cases from first of July 2006, to first of July 2007 were 75, the highest numbers 31(41.3%) in age group 41-50 years old, while 19(25.3%) in age group 51-60 years old and 16(21.3%) in age group 31-40 years old, 6(8.1%) in age more than 61 years old and 3(4%) in less than 30 years old (Table 1).

According to the type of occupation of female, the house-wife form 59(79%) from breast cancer and 10(13%) in teachers women while 5(7%) in different occupational status and only 1(1%) in doctors (Table -2).

The maximum rate of breast cancer at Para 1-3 30(40%), and 20(27%) in nilliparous, while 19(25%) at Para 4-6, and 6(8%) at Para more than 6 (Table-3).

The breast cancer in smoker females form 31(41%) were smoker while 44(59%) in non-smoker women (Figure -1).

According to the marital status, 70(93%) of breast cancer were married women and 5 (7%) unmarried women (Figure -2).

The distribution of menarche age showed 42(56%) at age of menarche 13-14 years old while 18(24%) at age of menarche 15-16 years old and 15(20%) at age of less than 13 years old (Figure-3).
At menopausal age, between 46-47 years old the breast cancer in those women form 20(53%), while 11(29%) at menopausal age more less 45 years old and 7(18%) at 48-49 years old (figure -4).

According to the residency of the breast cancer 44(59%) of cases from urban, and 31(41%) from the rural area of Najaf governorate (Figure -5).

The distribution of breast cancer according to family history show 11(15%) has first degree of family history of breast cancer, 7(9%) has second degree family history of breast cancer and 7(9%) has third degree of family history of breast cancer while 50(67%) without family history of breast cancer (Figure -6).

According to the age of first child birth 31(58%) at age 19-23 years old, 13 (24%) at age less than 18 years old, 3(6%) at age 24-28, 4(8%) at age 29-33 years old, and 2 (4%) at age more than 34years old (Figure -7).

Distribution of body mass index with breast cancer female (calculated as weight in kilograms divided by height in square meters) show that 32(43%) cases at BMI (46-48), 14(19%) at BMI(43-45), 11(17%) at BMI (40-42), 8(9%) at BMI (37-39), 5(7%) BMI(34-36), 3(4%) at BMI (31-33), 1(1%) at BMI(28-30) and 1(%) at BMI (25-27) (Figure -8).

The distribution of breast cancer according to contraceptive pills showed 26(35%) occurs in women taken contraceptive pills and 46(65%) in non use contraceptive pills (figure -9).

According to the family history of other type of cancer in female with breast cancer showed 6(8%) has ovarian cancer, 3(4%) has lung cancer, 3(4%) has cervical cancer, 1(1.3%) has brain cancer and 1(1.3%) has bladder cancer (Figure -10).

The presentation of breast cancer show (95%) of cases had breast lump as first presentation and (5%) presented with nipple discharge (Figure-11).

According to the histopathology, 73(97%) of breast cancer showed ductal carcinoma while 2(3%) with lobular carcinoma (Figure -12).

Most patients (80%) had left side breast cancer, while (17%) had right side breast cancer and (3%) has bilateral breast cancer, (Figure -13).

According to duration time of diagnosis 36(48%) of patients needed 5-6 months until diagnosis, 28(37%) needed 3-4 months to reach diagnosis and 9(12%) of patients required 7-8 month to diagnosis, while1(1.3%) needed more than 8 month to diagnosed and 1(1.3%) needed less than 2 months to diagnosed (Figure -14).

Most of the patients 74(99%) had breastectomy (adjuvant treatment) while 1(1%) treated as neoadjuvant (Figure-15).

Table (1): show the distribution of age in breast cancer women.

<table>
<thead>
<tr>
<th>Age</th>
<th>NO.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;30</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31-40</td>
<td>16</td>
<td>21.3</td>
</tr>
<tr>
<td>41-50</td>
<td>31</td>
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<tr>
<td>51-60</td>
<td>19</td>
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<td>8.1</td>
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<tr>
<td>Total</td>
<td>75</td>
<td>100</td>
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</tbody>
</table>

P=0.001
Table (2): show the type of occupation of women.

<table>
<thead>
<tr>
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<td>79</td>
</tr>
<tr>
<td>Teacher</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>Doctor</td>
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<td>1</td>
</tr>
<tr>
<td>Others</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>100</td>
</tr>
</tbody>
</table>

Table (3): show the parity of women

<table>
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<th>No.</th>
<th>%</th>
</tr>
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<tbody>
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<td>20</td>
<td>27</td>
</tr>
<tr>
<td>P1-3</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>P4-6</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>p&gt;6</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>100</td>
</tr>
</tbody>
</table>

P=0.0014

Figure (1): show distribution of smoking in breast cancer women

- Smoking: 31.41%
- Non-smoking: 44.59%
Figure (2): show marital status of women with breast cancer

Figure (3): distribution of age menarche

P=0.133

P=0.001
Figure (4): distribution of age menopause

P=0.03

Figure (5): distribution of residence of breast cancer
Figure (6): distribution of family history of breast cancer

Figure (7): distribution of women with first child birth and breast cancer
Figure (8): distribution of body mass index and no of breast cancer
P=0.021
Figure (9): distribution of No. with breast cancer according to contraceptive pills

Figure (10): distribution of family history of other cancer
Figure (11): distribution of presentation of breast cancer

Figure (12): distribution the histopathology of breast cancer
Figure (13): distribution of the site of breast cancer

Figure (14): distribution the time of diagnosis breast cancer.
Discussion:

Breast cancer is one of the most important diseases for women in the United States and constitutes one fourth of all cancers in females, making it the most common cancer in females.\(^{(1)}\) The lifetime probability of developing breast cancer is 1 in 7 for females; breast cancer is 100 times less common in men than in women and accounts for approximately 15% of female cancer deaths, and it is the leading cause of death in women aged 44-50 years.\(^{(1)}\) The incidence of breast cancer (number of new breast cancers per 100,000 women) increased by approximately 4% during the 1980s but leveled off to 100.6 cases per 100,000 women in the 1990s. The death rates from breast cancer also declined significantly between 1992 and 1996, with the largest decreases among younger women.\(^{(1)}\) The American Cancer Society estimates that in 2005, approximately 211,240 women in the United States will be diagnosed with invasive breast cancer (Stages I-IV).\(^{(1)}\)

This study showed the highest numbers of breast cancer in age group 41-50 years old, while National Cancer Institute showed that breast cancer more common with increasing age, approximately 77% of breast cancer cases occurred in women over 50 years of age,\(^{(1)}\) while in American women, the risk increased from 1:5900 to 1:290 between the third and eighth decades and a woman aged 60-79 years has a 1:14 chance of developing invasive breast cancer, compared with a woman younger than 39 years, who has a 1:225 probability.\(^{(1)}\) In Yemen a study showed that breast cancer increased abruptly in the age group 30-59 years (82.2%) and decreased gradually thereafter.\(^{(1)}\)

According to this study breast cancer more among house wife in contrast to other studies that showed breast cancer in female more common in high social class, this because most female in our sociality are house-wife, like other study in Baghdad.\(^{(3)}\)

This study showed that the maximum rate of breast cancer at Para 1-3 and only form (27%) in nulliparous, unlike other studies that presented nulliparous as a risk factors of female breast cancer.\(^{(9)}\)

In a large, prospective study, current smoking was associated with a higher breast cancer risk, but only among women without a family history of breast cancer and among women with a family history of breast cancer, no association between current smoking and breast cancer risk was found, but in our study the breast cancer in smoker females form (41%), this because the percentage of smoker female in our society less than other communities, other study in Baghdad show no relation-ship between smoking habit and breast cancer.\(^{(4)}\)

This study showed 93% of breast cancer had occurred in married women, other study showed that, women who had at least one full-term pregnancy had 25% reduction in their breast cancer risk.\(^{(16)}\) Furthermore, there is evidence that the more children a woman has, the greater the protection from breast cancer and women with five or more children had 50% of the risk of nulliparous women.\(^{(17)}\) Late age at first full-term pregnancy also increases the risk, and women who have a first full-term pregnancy after age 30 have a twofold to fivefold greater risk than women with a first full-term pregnancy by age 18.
years, other study in Baghdad showed no relation ship between marital status and breast cancer.

This study showed that more than half of female breast cancer with age of menarche (13-14 years old) and menopausal age between (46-47 years old) in similar to other study that showed early menarche associated with a relative risk of breast cancer this explained increased by lifetime exposure to estrogens and Conversely, late menarche, anovulation, and early menopause (spontaneous or induced) are protective, owing to their effect on lowering the level or shortening the duration of estrogenic exposure, and other study shows menarche age when younger than 13 years (2 times the risk), and menopause when older than 50 years.

According to the residency of the breast cancer this study showed that more than half patients from urban area, because most urban patients can reach the specialist easier than rural patient, like other study in northern United States show that residence in urban areas are more common than in rural area and associated with a relative risk factors of breast cancer, other study also presented that breast cancer more in urbanized and modern lifestyles, with modernization lifestyles linked with physical inactivity, smoking and new eating habits.

Majority of cases in this study without family history of breast cancer and only 15% had first degree of family; other study showed the relative risk of patients with an affected first-degree relative is 1.5-2 times higher when compared to controls without affected family members. While a study in Iraq (Al-Kadhmia teaching hospital) show that 32.1% of breast cancer with positive family history. Others also showed that even more significantly, having two first-degree relatives affected (female or male) increases relative risk by more than 4-6 times when compared to patients without this risk factor.

Many studies also show that, age of the affected relative at time of diagnosis also influenced risk, and a patient with a mother diagnosed when younger than 60 years is at 2 times increased risk. The American Cancer Society, showed that bilateral cancer in a first-degree relative may increased risk by more than 6 times.

This study showed that more than half of patients with breast cancer had first child at age 19-23 years old, while other study showed that aged 30 years or older, relative risk is 2 times that of patients who gave birth when younger than 20 years, also other study show that late age at first full-term pregnancy also increases the risk, and women who have a first full-term pregnancy after age 30 have a twofold to fivefold greater risk than women with a first full-term pregnancy by age 18 years.

Our study show 43% of cases at body mass index (BMI 41), while the International Agency for Research on Cancer estimates that 25% of breast cancer cases worldwide are due to overweight or obesity and a sedentary lifestyle, while in a study of the American Cancer Society including 495, 477 women followed for 16 years, the risk of breast cancer mortality was increased significantly with increasing level of obesity.

The distribution of breast cancer according to contraceptive pills our study showed that more than half of patients is non used contraceptive pills and only (35%) in women take contraceptive pills, other presented that oral contraceptive use by mature women does not increase breast cancer risk, but add little to the uncertainty about the effects of early use. Other study present that women who have stopped using oral contraceptive for 10
years old or more have the same risk as women who have never used the pills. Other study in Baghdad 38.9% of female used contraceptive pills had breast cancer. This study show that family history of other type of cancer in female with breast cancer showed that only 6(8%) has ovarian cancer, others showed that 90% of breast cancer in families with both breast and ovarian cancer this associated with BRCA1 and BRCA2 mutations which are associated with higher risk.

The presentation of breast cancer show (95%) of cases in our study has breast lump with more than three quarter of patients has left side breast, others show the great majority of patients presented with a painless palpable mass. The majority of histopathology presentation of breast cancer in this study with ductal carcinoma, other study show that Infiltrating or invasive ductal cancer is the most common breast cancer histological type comprising 70-80% of all cases, and others showed Invasive lobular carcinoma is the second most common histological type after ductal carcinoma, accounting for 5-10% of all breast cancers.

According to date of diagnosis (48%) of patients needed 5-6 months until definitive diagnosis, this partly due to the deficiency of the breast examination at primary health care centre especially at maternal unit and also due to deficient award about the mammogram examination, from this study no one of patients has mammogram examination, researchers in Germany studied more than 7,000 women over five years. They found mammograms picked up 56 per cent of cancerous cells in the ducts, while 92 per cent of the cases were identified by MR and the most of the patients in this study (99%) have breastectomy (combination surgical and chemotherapy treatment) same other study that show the combination chemotherapy is superior to single agents in the adjuvant setting.

Conclusions:
- The majority of women with breast cancer were presented in the 5th decade.
- There is no obvious relation between smoking and breast cancer.
- Most of our patients were married and house-wife.
- Majority of these patients presented with breast lambs and mostly affected left side.

References:
4. S. Fakri, A.Al-Azzawi1 and N. Al-Tawi: Department of Medicine, College of Medicine, Al-Nahrain University, Baghdad, Iraq.