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The Frequency of Breast Cancer Among Women Referred to Hospitals for Biopsy in Birjand, Iran During 2011-2013

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ABSTRACT

Background: This study aims to demonstrate the frequency of malignant breast cancer (BC) according to pathologic findings in Birjand during 2011-2013 years.

Methods: For this cross-sectional study, the sample consisted of pathologic records from 229 breast biopsies of two hospitals in Birjand.

Results: Most of the biopsies in women were malignant cases which nearly 90% of them were detected after lymph node involvement. The mean age of women with malignant BC was 48.8 years.

Conclusions: A notable proportion of our cases were diagnosed in metastatic stages as advanced BC. It further highlights the importance of screening and diagnosis at earlier stages.

Introduction

Several studies in Iran have shown that breast cancer (BC) is the most common cancer among Iranian women.^{1,2} Most of breast lesions are of the benign nature with two types of progressive and non-progressive. Non-progressive types do not lead to BC ;but, progressive types increase the relative risk of BC.² In addition, benign BC can be divided into three groups including lesions without hyperplasia such as simple fibrocysts, hyperplasia without atypia and hyperplasia with atypia such as ductal and lobular tumors which the latter increases the chance of BC.³ Early detection of benign or malignant

lesions helps to use more effective therapies for the patients.

As many patients with early BC have no symptoms; effective prevention and early detection is one of the priorities of health practitioner. Thus, a key strategy for successful therapy of BC will be early recognition of patients in population. This study compares the distribution of benign vs. malignant cases of BC patients in relation to age and pathological characteristics.

Methods

In this cross-sectional study, data were obtained from patients who were referred by departments of pathology of Emam Reza and Shahid Rahimi hospitals for biopsy, as a diagnostic test, located in Birjand during 2011 to 2013. According to the pathologic findings in these hospitals, about 229 women were included to examine the frequency of malignant BC. The data (age and pathologic results of breast biopsies) were retrieved and analyzed by

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SPSS statistical software (version 18, SPSS Inc., Chicago, IL, USA). The descriptive statistics (mean and standard deviation) was used to assess the frequency of BC.

Results

During three years, 229 breast biopsies were performed in pathology departments of the study hospitals. Considering age groups, the highest (39.8%) and lowest (1.3%) frequencies of malignancies were observed in the 40-50 and less than 20 years age groups, respectively (Table 1).

Table 1. Distribution of malignant BC cases according to age (N = 146)

Age (Years)	N (%)
<20	2 (1.3%)
20-30	13 (9.0%)
30-40	25 (17.2%)
40-50	58 (39.8%)
50-60	34 (23.2%)
60-70	11 (7.5%)
<70	3 (2.0%)

In fact, 63.9 % of biopsies resulted in diagnosis of malignancy and 12.2%, 17.4% and 6.5% were normal, cyst fibrosis and fat, respectively (Table 2).

Table 2. Pattern of biopsy results (N = 229)

Pathologic results	N (%)
Normal	28 (12.2%)
Fat	15 (6.5%)
Cyst fibrosis	40 (17.4%)
Malignant	146 (63.9%)

In addition, 59% of malignant samples contained some features of hyperplasia. Overall, 4% and 6% of malignant cases had tumours in stage 0 or in-situ and I carcinomas, respectively. In fact, 90% of them were detected after lymph node involvement as metastatic cases (II, III and IV stages).

Discussion

BC is one of the most important women's health problems which its incidence is rising every year in Iran.¹ There are various risk factors for BC, including low age of menarche, late age at first pregnancy, fewer pregnancies, lack of breastfeeding, late menopause, obesity, and hormone replacement therapy. Female breast cancer incidence is strongly related to age.^{4, 5} In this study we reported the age distribution of women who were diagnosed with BC in Birjand within three years. According to the surveillance and health service research reports of the United States, most cases of BC are older than 70 years of age.⁶ In Iran, BC is diagnosed in women who are at least one decade younger compared to their counterparts in other part of the world.⁷ In our study

similar to some previous investigations, a considerable proportion of breast cancer cases were between the age of 40 and 50 (39.8%).⁸

Although breast lesions might be of a benign nature such as fibrocystic changes, they can also be warning signs of malignancy. The mean age of benign lesions is generally one to two decades lower in comparison with malignant tumors, almost one to two decades.³ Therefore, a breast mass especially in an elderly woman should be considered a warning sign of cancer and appropriate diagnostic approaches should be implemented.

In this context, our pathology records showed that the malignancy rate was 63.9% among all of the breast biopsies. In addition, hyperplasia was most commonly observed in patients with malignancy. Our results indicated that 12.2%, 17.4% and 6.5% of biopsy results were normal, cyst fibrosis and fat, respectively. So far, several studies investigated the epidemiology of BC in different regions of Iran such as Isfahan⁹, Golestan¹⁰, Tehran¹¹ and Ardabil¹² and our results were consistent with them indicating that malignant tumors comprised a considerable proportion of the specimens. Since breast cysts may exist from small to large sizes which occur most often after the age 40, early detection of breast cysts may suppress BC initiation and development.^{8, 13}

A limitation of this study was the relatively small number of included patient records which were available in 2 hospitals in Brjand within three years.

Another limitation was that the clinical symptoms and data regarding delay in diagnosis could not be retrieved from the pathology reports. Thus, the relative frequency of malignancy in biopsy specimens can be the dependent upon various factors such as prevalence of delay and referral patterns.

Overall, the results further mandate a national breast cancer detection program involving effective public education and encouragement of women for participation in screening programmes. For developing effective awareness programs, it's mandatory that main themes are recognized according to the studies that reveal knowledge gaps.¹⁴

Acknowledgment

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