

Types of Pathological Lesions in Breast Cancer in Babol Over 10 Years (2008 – 2017)

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ABSTRACT

BACKGROUND AND OBJECTIVE: Breast cancer is the most common cause of death from cancer in women worldwide. A comprehensive study of breast cancer in different parts of a country can provide the information for evidence-based planning and, consequently, cost reduction for both the patient and the society. The aim of this study was to investigate the types of pathological lesions in cases of breast cancer diagnosed in Babol (a city in the north of Iran) over 10 years.

METHODS: In this cross-sectional study, all pathological reports on breast cancer that were recorded in Babol's pathology centers from 2008 to 2017 were studied. Demographic data, age of first menstruation, age of menopause, age of first delivery, history of breast cancer, history of ovarian and uterine cancer, history and duration of breastfeeding were collected and evaluated.

FINDINGS: In this study, the frequency of breast cancer among diagnosed cases of cancer was reported to be 22.4%. 331 patients (99.1%) were female and 3 patients (0.9%) were male. 41.3% were in the age group of 41 – 50 years old. 26 patients (7.7%) had a history of breast cancer and 34 patients (10.1%) had a family history of breast cancer. 287 (85.9%) women had a history of breastfeeding. Ductal carcinoma was reported in 267 patients (79.9%).

CONCLUSION: According to the results of this study, ductal carcinoma was reported as the most common type of pathology.

KEY WORDS: *Breast neoplasm, Prevalence, Medical history, Pathology.*

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Introduction

Breast cancer is the most common cause of death from cancer in women worldwide, while about 45% occur in developing countries, and the incidence of the disease in these countries is increasing (1). Breast cancer, with a total percentage of 21.4 of all cancer types in women, is reported as the most common cancer in Iranian women (2).

According to the World Health Organization, the global incidence of breast cancer increases by about 2% every year (3). This malignant disease is curable with timely diagnosis (4, 5).

Omar et al. reported that more than 20 million people in the world suffer from cancer (6). O'Malley et al. reported that breast cancer is rare in women younger than 20 years and uncommon in women younger than 30 years of age (7). Since many of the factors involved in this cancer can be changed by intervention, the frequency of this type of cancer can be changed in the community. Therefore, the present study was conducted to investigate the clinicopathological features of breast cancer diagnosed in Babol, Northern Iran, over a 10-year period (2008 – 2017).

Methods

After being approved by the Ethics Committee of the Babol University of Medical Sciences (MUABOI.REC.1391.5), this cross-sectional study was conducted on samples of all patients with a pathologic history of breast cancer during 2008 – 2017 in pathological centers of Babol. The sample size included 1488 cases, 1078 of which were excluded from the study due to being benign according to pathology results. Of 410 remaining patients, 76 patients with no available information were excluded and finally, 334 patients were included in the study. All patients whose information were available, underwent surgery and had malignancy were included in the study. In case of having another type of cancer in addition to breast cancer and patient dissatisfaction, the patient was excluded from the study.

An informed written consent was obtained from patients. The entire information of patients was collected using a checklist containing demographic and clinical information and the information available at pathology centers' archive. Data were analyzed using SPSS V.22 software. Frequency and percentage frequency were used for qualitative variables, while the mean and standard deviation were used for quantitative variables.

Results

In this study, 331 (99.1%) patients were female and three (0.9%) patients were male. The mean age of the patients was 47.58 ± 10.01 with an age range of 21–86 years (Fig 1). Eighty four points six percent of patients were married, 54.2% were illiterate, 61.9% lived in the city, 6.2% smoked and 3.4% consumed alcohol. The mean BMI of patients with cancer was 29.12 ± 5.39 kg/m². Mean age of menarche in these patients was 11.28 ± 2.4 years. Mean age of menopause and age at first birth in these patients were 52.10 ± 2.21 and 24.31 ± 4.22 years, respectively. Among the studied women, only 91 (37.4%) women had reached the age of menopause. Two hundred eighty five (89.1%) women had a history of delivery. Twenty six (7.7%) patients had a history of breast cancer and 34 (10.1%) patients had a family history of breast cancer. Eleven (3.3%) patients had a history of ovarian or uterine cancer.

Nine (2.7%) patients had a history of radiotherapy. Two hundred eighty seven (85.9%) patients had a history of breastfeeding and 109 (32.6%) patients had used contraceptive pills. The left side was the most involved side, detected in 241 (72.1%) patients and bilateral involvement was the most uncommon, detected only in six (1.8%) patients. Invasive ductal carcinoma was the most common malignancy (table 1).

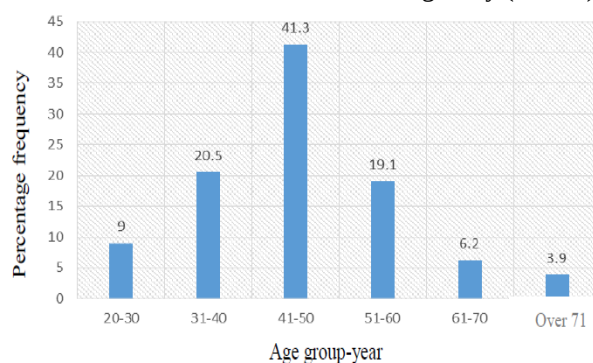


Figure 1. Percentage frequency distribution of the age group of the patients under study

Table 1. Frequency distribution of pathologic findings in patients with breast cancer

Histopathology	Frequency (%)
Invasive Ductal Carcinoma	267(79.9)
Invasive lobular carcinoma	23(6.9)
Ductal carcinoma in situ	21(6.2)
Ductal and Lobular Invasive Carcinoma	9(2.7)
Medullary carcinoma	7(2)
Mucinous carcinoma	3(1.4)
Papillary carcinoma	2(0.9)
Malignant phyllodes tumors	1(0.3)
Paget's disease	1(0.3)

Discussion

Invasive ductal carcinoma is the most common breast cancer in this region. The ratio of female to male was 110 to 1. The mean age of patients in this study was 47 years. According to various studies conducted in Iran, most cases of breast cancer are reported in the age range of 40–49 years (2, 8, 9). A mean age of 45 years was also observed in the study of Tahmasbi Fard et al. (8). The mean age of the patients in the study of Rampishe et al. in 2013 was 51 years (10). Alavicheh et al. in 2015 found that 49% of breast cancers that occurred in their study were in the age group of 41 – 60 years old (9). Unfortunately, the maximum incidence of breast cancer among Iranian women is in their fourth and fifth decades of life, which according to many physicians is one decade lower than the global statistics (10). Molah Karim et al. reported a mean age of 49 in 2015 (11). The mean age of menarche in our study was reported to be 10 years. Long-term exposure to endogenous hormone plays an important role in the pathogenesis of breast cancer (12). Therefore, age at

menarche over 14 years can reduce the risk of breast cancer (13). Tehranian et al. in 2009 concluded that the frequency of breast cancer was significantly higher in women with an age at menarche over 15 years compared with women with an age at menarche below 12 years of age (14). Rostami et al. in 2005 stated that women with an age at menarche below 13 years were 3.4 times more likely to have breast cancer than women with an age at menarche over 13 years (2). According to the results of this study, ductal carcinoma was the most common type. The fourth and fifth decades of life had the highest frequency of breast cancer.

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