

EPIDEMIOLOGICAL STUDY OF BREAST TUMORS IN IRANIAN PATIENTS

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ABSTRACT

Background: Breast cancer is the most common type of malignancy among women worldwide. Determination of related factors for pathological subtypes of breast tumors is essential to develop preventive strategies in this era. In this survey large number of breast tumor slides was assessed in a pathology referral center.

Materials and methods: In this descriptive cross-sectional study, 1100 medical existing data related to Armin referral pathology center in Tehran, Iran were assessed in a four-year period. Data were extracted and clinical and other variables were compared between benign and malignant lesions.

Results: The mean (\pm standard deviation) age was 41.8 (13.55) years. Among patients, 93.9% were female and 6.1% were male. In 395 cases (35.9%) the lesions were malignant and in 705 cases (64.1%) those were benign. The most common types of benign lesions were fibrocystic changes (42.4%) and adenofibroma (27.9%) and the most common malignancy was invasive ductal carcinoma (88.1%). The lesions were left-sided, right-sided, and bilateral in 50.3%, 43%, and 6.7%, respectively. The mean lesion size was 2.4 (1.33) centimeters. The age, side of lesion, and gender were related to malignancy ($P=0.01$). The size was not related to type of lesion ($P > 0.05$).

Conclusions: Totally, according to the obtained results in this study it may be concluded that general characteristics and related factors of benign lesions in Iranian patients are similar to other worldwide reports.

Keywords: Breast, Tumor, Pathology

INTRODUCTION

Breast cancer is a common cancer and worldwide leading cause of death among women with annual rate of 1150000 new cases (1, 2). There are several risk factors including family history of cancer leading to subdivision of cancers to familial and sporadic cases (3, 4). Other risk factors include obesity, estrogen level and receptors, etc (5-8). Familial breast cancer is seen in 4-10 percent of cases especially due to P53, BRCA-1, and BRCA-2 gene mutations (9-11). Determination of related factors for pathological subtypes of breast tumors is essential to develop preventive strategies in this era. In this survey large number of breast tumor slides was assessed in a pathology referral center.

MATERIALS AND METHODS

In this descriptive cross-sectional study, 1100 medical existing data related to Armin referral pathology center in Tehran, Iran were assessed in a four-year period. Data were extracted and listed and the clinical and other variables were compared between benign and malignant lesions. The slides with established diagnosis and complete data were assessed in this study and the others were excluded. Understudy variables were age, sex, type of lesion, grade, side of involvement, hormonal receptor and P53 status, and size of the lesion.

Data analysis was performed among 1100 studies cases by SPSS (version 11.5) software [Statistical Procedures for Social Sciences; Chicago, Illinois, USA]. Chi-Square, Fisher, and Independent-Sample-T tests were used for analysis and were considered statistically significant at P values less than 0.05.

RESULTS

The mean (\pm standard deviation) age was 41.8 (13.55) years and 23.4% were older than 50 years. Among patients, 93.9% were female and 6.1% were male. In 395 cases (35.9%) the lesions were malignant and in 705 cases (64.1%) those were benign. The most common types of benign lesions were fibrocystic changes (42.4%) and adenofibroma (27.9%) and the most common malignancy was invasive ductal carcinoma (88.1%). The lesions were left-sided, right-sided, and bilateral in 50.3%, 43%, and 6.7%, respectively. The mean lesion size was 2.4 (1.33) centimeters.

Estrogen, progesterone, and P53 were positive in 62.2%, 62.2%, and 80%, respectively. The grade was I, II, III, and IV in .3%, 37.3%, 53.6%, 8.1%, and .7%, respectively. The age, side of lesion, and gender were related to malignancy ($P=0.01$). The size was not related to type of lesion ($P >0.05$).

Table 1. Pathological subtypes of malignant and benign lesions

Type		Frequency	Percent
Malignant	IDC	348	88.1
	Other IDCs	32	8.0
	Phyllodes	4	1.0
	Colloid	5	1.3
	Medullary	5	1.3
	Leiomyosarcoma	1	.3
	Fibrocystic Change	299	42.4
Benign	Adenofibroma	197	27.9
	Gynecomastia	44	6.3
	Lipoma	33	4.7
	Others	132	18.7

DISCUSSION

In this survey large numbers of breast tumor slides were assessed in a pathology referral center. In our study it was seen that nearly thirty-six percent of cases the lesions were malignant and in 705 cases (64.1%) those were benign. The most common types of benign lesions were fibrocystic changes and adenofibroma and the most common malignancy was invasive ductal carcinoma. The age, side of lesion, and gender were related to malignancy.

In the study by Enayatrada et al (12) the reported epidemiological data were similar to our study for tumor subtypes and some clinical data. Also Eisemann et al (13) reported that stages are usually other than stage-one and also the IDC tumors were most common type of malignancy. As reported by Fan et al (14), detection of malignant tumors are seen generally in high grades leading to lower prognosis in patients.

As shown by Saggu et al (15) in Saudi Arabia, the mean age of breast cancer is higher in other study near to 50 years. But according to our results the mean age is near to 40 years. It demonstrates that age of breast cancer diagnosis is lower in our country. It may be due to multiple reasons such as periodical screenings, better diagnostic tools, and higher awareness in Iran compared with other countries. However the most common types of tumors that were IDC in our country are same in other studies in different worldwide regions (16).

Balekouzou et al (17) reported mean age of 45 years that is more near to our results and also it was seen that fifteen percent of lesions were malignant and the other breast lesions were benign. However the malignancy rate was higher in our study that may be due to difference in population characteristics and some hereditary factors may be contributing for this matter.

According to our results and review of other studies in the literature, it may be concluded that general characteristics and also the related factors of benign lesions in Iranian patients are similar to other worldwide reports. However further studies with larger sample size are required to develop more definite results.

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