
Clinical and epidemiological profile of women with breast cancer managed in a public referral hospital in northeastern Brazil

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Summary

Aim: To evaluate the clinical and epidemiological profile of women with breast cancer, managed in the Breast Service at Hospital Getúlio Vargas (HGV). *Materials and Methods:* A descriptive, observational cross-sectional study, involving 174 breast cancer patients, managed at the Breast Service at HGV in Teresina, in the northeast of Brazil, from May 2011 to June 2014. Epidemiological variables included age group, age at menarche, age at first childbirth, and menopause. The tumor characteristics studied were histological type, TNM classification, and staging. The results were organized in distribution tables. *Results:* Breast carcinoma was more common in patients aged 60 and over, in multiparous women, and in women who were menopausal before age 55. The most common histological type was ductal invasive carcinoma T2N1M0 (Stage IIB) in 83 (48%) women. *Conclusion:* The current study shows that the majority of carcinomas were Stage II or advanced tumors, with clinically positive axillary lymph node status and weak correlation with reproductive risk factors.

Key words: Breast cancer; Epidemiology; Tumor characteristics.

Introduction

Breast cancer is the second most common malignancy in women from Western countries, following non-melanoma skin cancer. There are more than 1.5 million incident cases diagnosed annually worldwide and about 500,000 deaths are due to breast cancer [1, 2]. Therefore, it is the most common cancer in women from both developed and developing countries [3]. In the United States, female breast cancer accounts for 32% of all new cancer cases and is the second leading cause of cancer death (15%) after lung cancer [4, 5]. On average, one in eight women will be diagnosed with breast cancer in her lifetime [6]. In Brazil, 57,120 new cases of breast cancer and 13,345 deaths from this disease were estimated for the year 2014 [7]. The recognition of risk factors aimed at making an early diagnosis by physical examination and mammography, associated with current therapeutic strategies, is imperative for reducing the mortality rate in breast cancer [5]. Nevertheless, only a weak positive correlation has been consistently demonstrated between perceived breast cancer risk and mortality by mammographic screening [8].

The reason for the twofold or even threefold increase in breast cancer in the last decades is unknown. The disease affects mostly older women, in the postmenopausal period. However, the Cancer Research Center considers that re-

productive factors such as age at menarche, age at menopause, parity, age at first delivery, and breast feeding are influential [9]. Among women with breast cancer, there is a wide variability in results, both in treatment-related toxicity and disease-free survival (DFS). Primary predictors of DFS are those related mainly to disease extension, clinical staging, and tumor characteristics, associated not only with tumor aggressiveness but with patient response to treatment [10].

In Brazil, between 2012 and 2014, the incidence of breast cancer increased from 52 to 56 cases per 100,000 women [7,11]. Northeastern Brazil has the highest increase in breast cancer [10]. Furthermore, mortality due to breast cancer decreased and stabilized between 1994 and 2009 in the south and southeast regions of Brazil, increasing by 5.3% in the northeast region [12]. Higher rates in the northeast of the country, where the disease is commonly diagnosed in late stages, may be related to an increase in life expectancy and low mammographic coverage [13]. However, despite the increased incidence and mortality rates of breast cancer in northeastern Brazil, there is a paucity of studies on the topic. Little is known about the clinical and epidemiological profile of women with breast cancer in this underprivileged region in Brazil, leading the authors to the conception of the current study.

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Table 1. — Characteristics of the patients.

Patients		n = 174	%
Age group (years)	Before 30	8	5
	30 - 39	25	14
	40 - 49	45	26
	50 - 59	39	22
	60 or greater	57	33
Menarche age (years)	Before 12	64	37
	After 12	110	63
Parity	Nulliparous	52	30
	Primiparous	16	9
	Secundiparous	30	17
	Multiparous	76	44
Age at menopause (years)	Before 55	139	80
	After 55	35	20
Total		174	100

Research: direct source.

Table 2. — Characteristics of the tumors.

Tumor	n = 174	%	
Histological type	Invasive ductal carcinoma	148	85
	Ductal carcinoma in situ	10	6
	Others	16	9
	TNM classification		
T0N0M0, Stage 0	10	6	
T1N0M0, Stage I	16	9	
T2N0M0, Stage IIA	23	13	
T2N1M0, Stage IIB	83	48	
T N2M0, Stage IIIA	35	20	
T4N2M0, Stage IIIB	7	4	
Total	174	100	

Research: direct source.

Materials and Methods

Patients

The current study was approved by the Institutional Review Board of Getúlio Vargas Hospital, Federal University of Piauí, and involved 174 patients with breast cancer. Included in the study were patients managed from May 2011 to June 2014 in the Breast Service at HGV, who received a histological diagnosis of breast cancer. All patients participating in the study were previously required to sign a written informed consent term. Patients under prior treatment and those declining to participate were excluded from the study.

Methods

This was a descriptive cross-sectional study, including epidemiological and clinical characteristics of women with breast cancer. The epidemiological variables studied were age distributed into age groups, age at menarche, parity, and age at onset of menopause. Clinical and tumor characteristics included histological type, TNM classification, and clinical staging. Data obtained were compiled and analyzed. Frequency was organized in a distribution table using Excel software 2010.

Results

In the current study, the epidemiological study of breast cancer patients showed that 57 (33%) out of 174 women were 60 years or older and 84 women (48%) ranged in age from 40 to 59 years. Age at menarche under age 12 had occurred in 64 women (37%) and over 12 years in 110 women (63%). Concerning parity, 52 (30%) were nulliparous, 16 (9%) primiparous, 30 (17%) secundiparous, 46 (26%) and majority of women 76 (44%) were multiparous. Menopause occurred in 139 (80%) women before age 55 and in 35 (20%) women after age 55 (Table 1). Concerning tumor characteristics, 158 (91%) cases were ductal carcinoma, with 148 (85%) invasive carcinoma, and ten (6%) carcinoma in situ. Sixteen (9%) cases were other histological types. T2N1M0 carcinoma, Stage IIB, was the most common presentation, affecting 83 (48%) women (Table 2).

Discussion

Breast cancer is an important public health issue, with more than one million patients diagnosed annually worldwide [14]. In developed countries, such as the United States, it is the second cause of cancer death, following lung cancer [5]. Therefore, it arouses interesting selecting high-risk patients and in establishing strategies for risk reduction and early diagnosis of the disease, using chemoprevention and mammographic screening, respectively. High mortality-incidence ratios signify poor survival, partly because of the late stage at diagnosis and restricted access to treatment [15].

The understanding of risk factors that may contribute to the development of breast cancer is crucial in Latin America, where the majority of breast cancer cases are diagnosed at advanced stages, resources are limited, and mammographic screening rates are low [16]. The risk of developing breast cancer increases with age [17]. This is in agreement with the current study showing a higher incidence of breast cancer in women aged 60 years or over. However, age at menarche was an important relative risk factor for breast cancer both in premenopausal and postmenopausal women. A two-year delay in menarche corresponded to a 10% risk reduction [18], in contrast to the current study that demonstrated a higher incidence of breast cancer in patients with menarche after age 12.

In the current survey, most patients were multiparous, which was not in agreement with the medical literature. In the literature, younger age at the time of first full-term pregnancy and parous women had an overall lower risk of breast cancer compared to women who had never given birth. This protective effect is time-dependent, mainly lasting ten years after parturition [19]. Furthermore, older age at the onset of menopause is associated with an increased risk of breast cancer. However, in this study the majority of women

(around 80%), did not have late-onset menopause. On the other hand, there are reports estimating that breast cancer risk increases by 3% for every one-year delay in the onset of menopause [20]. In contrast, regarding tumor characteristics, the most common histological type was invasive ductal carcinoma, with few carcinoma in situ or Stage I disease, and 83 (48%) of women had clinically positive axillary lymph node status, Stage IIB disease. Many patients 42 (24%) had advanced stage disease and initiated treatment with neoadjuvant chemotherapy, which was in agreement with a study conducted by Truffelli *et al.* [21]. These authors showed that the majority of breast cancers diagnosed in Brazil were no longer early-stage tumors at the time of presentation. Stages I, II, III, and IV tumors were detected in 25.7%, 42.4%, 25.8%, and 6.1% of cases, respectively [21]. Although there is still debate on the effectiveness of regular screening and its impact on mortality reduction [22], some researchers have shown a 22% reduction in mortality through routine screening mammography, in addition to benefits in treatment [23].

The present study shows that the majority of carcinomas were Stage II or advanced tumors, with clinically positive axillary lymph node status and weak correlation with reproductive risk factors. Thus, mammography equipment should be purchased and made available to the population. Further studies with a higher patient sample are required, to assess the clinical and epidemiological aspects of breast cancer in this underprivileged northeast region of Brazil.

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