CLINICO-EPIDEMIOLOGICAL PROFILE OF BREAST CANCER PATIENTS IN CENTRAL KERALA

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ABSTRACT

BACKGROUND

Breast cancer is the second most common cancer among women with increasing incidence. Mortality is higher in India compared to developed countries. A thorough knowledge of the epidemiological profile is imperative to formulate control strategies for a population.

MATERIALS AND METHODS

This is a 2-year retrospective study on diagnosed cases of breast cancer in central Kerala. Demographic data and risk factors are collected on a proforma and analysed.

RESULTS

All 150 patients studied were females and most belonged to the age group of 40-60 years. A breast lump was the commonest presentation (88%), most commonly, on the right side (70.6%) with a median duration of symptoms of 11 months. 46.6% patients had AJCC TNM stage III at presentation. 5.3% had a positive family history. Hormone replacement therapy was present in 2.6% and 6% had a history of prior breast malignancy.

CONCLUSION

Breast cancer in Kerala is more biologically aggressive disease than in the west with a widely different spectrum of presentation and behaviour. Compounding this is a late presentation in an advanced stage. More cases need to be detected early with routine health check-ups and periodic screening of high-risk groups for better disease control.

KEYWORDS

Carcinoma Breast, Epidemiology, Kerala.

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BACKGROUND

Breast cancer, the second most common cancer in the world is the most frequent cancer among women.[1] About 1 in 8 U.S. women (approximately 12%) will develop invasive breast cancer over the course of her lifetime.[2] In 2018 in the United States, an estimated 266, 120 new cases of invasive breast cancer are expected to be diagnosed in women.[3] India reports about 100,000 cases of breast cancer annually, with an estimated increased rate of 3% per year.

The death rates due to breast cancer are highest in India, surpassing China and USA and is a cause of concern.[4]

To plan and formulate sound cancer control strategies epidemiological profile is very essential. Unfortunately, there are no studies about the epidemiological profile of breast cancer among women in central Kerala. Hence the relevance of the study.

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MATERIALS AND METHODS

This retrospective study, conducted at a tertiary care hospital in central Kerala, between January 2010 and December 2013 included one hundred and fifty diagnosed cases of breast cancer. Information was collected on a Performa from the medical records. Parameters studied included age and gender of the patient, presenting complaints, duration of symptoms, side and site of breast lump, age at menarche and menopause, age at first child birth, breast feeding, family history, hormone replacement therapy, previous history of breast lump and TNM stage at presentation.

RESULTS

150 patients diagnosed with breast cancer were included of which, there were no males. The demographic and clinical characteristics of the disease are shown in Table 1.

Majority of the patients were in the age group of 40-60 years (70.6%, median age 48 years), with the youngest being 25 years old and oldest being 78 years old. (Figure 1)

The duration of presenting complaints ranged from 7 days to 24 months, with a median of 11 months. 72.2% of patients had complaints lasting less than 6 months.

132 (88%) patients presented with a breast lump, 106 (70.6%) on the right side, and 72 (48%) in the upper outer

quadrant of the breast. (Figure 2) One patient came with bilateral breast lump.

Twelve (8%) patients presented with blood stained nipple discharge without any lump. Six (4%) patients were detected to have breast cancer during routine health check-up.

On evaluation of the stage, 46.6% patients were diagnosed in AJCC TNM (7th edition) stage III at presentation and one (0.6%) patient had in situ disease.

On risk factor evaluation, 7 (4.6%) patients were nulliparous and 24 (16%) patients had not breast fed their children for more than twelve months. Age at menarche ranged from 9–18 years, with a mean of 12 years and 99 (66%) patients had menarche before 12 years of age.

86 (57%) patients were postmenopausal, with 4(2.66%) patients having menopause after the age of 55 years. 8 patients (5.3%) had a positive family history of breast cancer in single first degree relative, and 2 patients (1.3%) had a first full-term pregnancy after the age of 35 years.

Risk factors such as hormone replacement therapy was present in 4(2.6%) patients and 9(6%) patients had history of breast cancer with 1 patient having history of breast cancer on the same side. (Table 2).

Gender	
Male	0
Female	150
Age (in years)	
20-30	2
30-40	16
40-50	39
50-60	67
60-70	20
>70	6
Presenting Complaint	
Lump	132
Nipple Discharge	12
Routine Health Check-Up	6
Duration of Symptoms	
< 6 Months	104
6 Months - 1 Year	30
> 1 Year	10
Side	
Right	106
Left	43
Bilateral	1
Site	
Upper Outer	72
Upper Inner	3
Lower Outer	44
Lower Inner	26
Central	5
Disease Stage	
Insitu Disease	1
Stage I	29
Stage II	70
Stage III	43
Stage IV	7

Table 1. Distribution of Study Subjects According to Demographic and Clinical Characteristics

Family History	
Absent	142
Present	8
Previous History of Breast Cancer	
Absent	141
Present	
Opposite Side	8
Same Side	1
Age at Menarche	
<10 Years	1
10 - 12 Years	98
12 - 14 Years	32
14 - 16 Years	8
16-18 Years	1
Age at Menopause	
<45 Years	1
45-50 Years	121
50-55 Years	24
>55 Years	4
Hormone Replacement Therapy	
Present	4
Parity	
0	7
1	51
2	68
3	21
4	3
Duration of Breastfeeding	
NIL	10
<6 Months	4
6 Months - 12 Months	10
12 Months - 18 Months	38
18 Months- 24 Months	51
>24 Months	37
Age at First Child Birth	
<20 Years	12
21 -25 Years	77
26-30 Years	42
31 - 35 Years	10
> 35 Years	2

Table 2. Distribution of Study Subjects as per Risk Factors

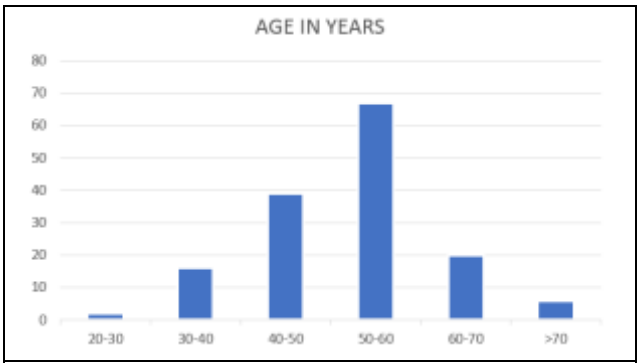

Figure 1

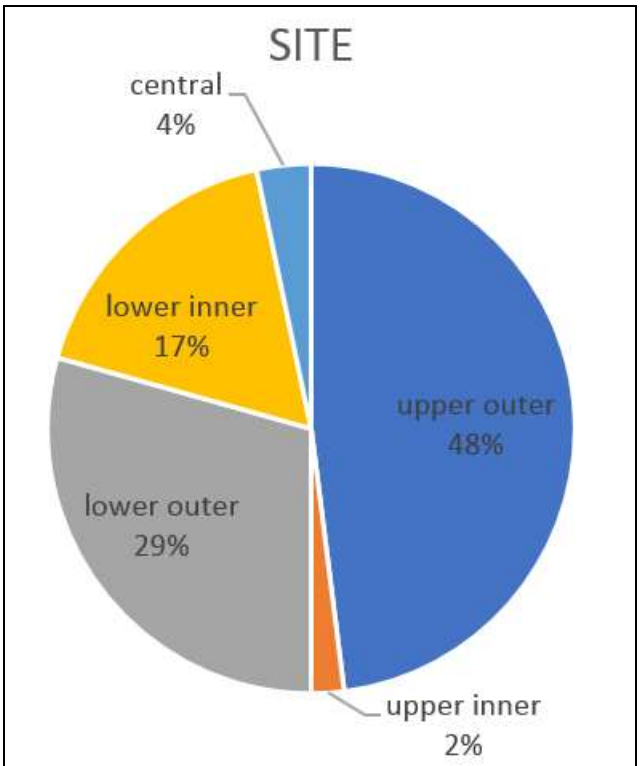

Figure 2

DISCUSSION

Breast cancer is predominantly a disease of females with female gender being the strongest non-modifiable risk factor. There was no case of male breast carcinoma in our study. Incidence of male breast cancer in literature is 1.4%.[5]

The mean age of breast cancer patients has been reported to be 50 to 53 years in various cancer registries located in different parts of the India.[6] The mean age of occurrence of breast cancer amongst US white females has been reported to be 61.0 years.[7] The mean age of occurrence of the breast cancer in our study is 48 years, showing that the disease occurs a decade earlier, as compared to western counterparts. The reason for which is to be evaluated further.

Various epidemiological studies carried out in India and western populations have identified various reproductive factors generally associated with breast cancer.[8-10] The studies have consistently identified several risk factors, each of which is associated with increased exposure to endogenous and exogenous oestrogens. Early age at menarche, nulliparity, late age at 1st delivery, late age at menopause increase the risk of breast cancers.[11,12]

The results from our study also support the same.

The duration of presenting complaints ranged from 7 days to 24 months, with a median of 11 months. Commonest presenting symptom is breast lump like in many previous studies.[13,14]

Our study showed that disease presented mostly in stage II and III which accounted for 75.3% cases. It means that breast cancer is presenting at relatively late stage making prognosis poorer. This is in accordance with previous data.[15,16]

CONCLUSION

Breast cancer in Kerala is thus a far more biologically aggressive disease than in the west with a widely different spectrum of presentation and behaviour. Compounding this is late presentation in an advanced stage.

Current knowledge of breast cancer offers little prospects of primary prevention. Even though Kerala is the most literate state in India, only four percent of patients had their breast cancer detected by routine health check-up. Also, most cases had advanced presentation. This study reinforces the need to support health education regarding the warning signals of breast cancer and its early screening so that more patients can be diagnosed at an early stage and effective treatment can be given to these women and their lives can be saved. What we need are efforts made to detect breast cancer at the very early stage through periodic screening of high-risk groups either by physical self-examination or by self-breast-examination. More, larger studies are needed to investigate the epidemiology of breast cancer in youngsters in Kerala to formulate a better treatment plan. This will help us to provide better quality of life to breast cancer patients.

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