

Comparing Incidence, Risk Factor and Presentation of Carcinoma Breast In Premenopausal and Post Menopausal Women

Dr.Arpana Singh¹, Prof. Dr. R.G. Baxla², Dr.Ankit Verma³, Dr Jiwesh Kumar⁴

²: Professor Department of Surgery, RIMS RANCHI,

¹: Senior resident Department of Surgery RIMS RANCHI

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I. Introduction

Breast cancer is the most common female cancer worldwide. The incidence of breast cancer is rising in India (22.9%). In young women, breast cancer tends to be more aggressive, larger in size and possesses a poorer prognosis when compared to older women^[2-4]. Young women tend to have more advanced disease^[2-5]. Age is an independent prognostic factor even when size and nodal status are considered. Young aged patients have a worse prognosis than older one^[2,3]. Young patients have a higher incidence of invasive ductal carcinoma (IDC), a greater number of lymph node-positive cancers, and are more likely to have lymphovascular invasion^[4]. Young women are more likely to have tumors that are ER-negative^[2, 5, 14]. diagnosed cancer in women after cervical cancer^[1]. There are a number of risk factors that may increase the chance of having breast cancer but yet it is unknown that how some of these risk factors are carcinogenic^[6,7]. Risk factors can be divided into un-modifiable risk factors and risk factors related to lifestyle choices. Un-modifiable risk factors are gender, age, genetic factors, family history, personal history of breast cancer, dense breast tissue, menstrual periods, breast radiation early in life, and treatment with diethylstilbestrol. Risk factors related to lifestyle are not having pregnancy history or pregnancy at late ages, recent use of birth control pills, using hormone therapy after menopause, not breast-feeding, alcohol etc^[7-13]. Menopause does not cause cancer, but the risk of developing cancer increases as a woman ages. A woman who experiences menopause after age 55 has an increased risk of ovarian, breast, and uterine cancers. The risk is greater if a woman also began menstruating before age 12. A longer exposure to estrogen increases a woman's risk of breast cancers. Therefore, women who have been through natural menopause are more likely to develop cancer around as twice as high because of hormonal factors^[7]. Among post menopausal women, obesity is positively associated with serum concentrations of endogenous estrogen^[16] and with moderate elevations in both the incidence of breast cancer and mortality from disease^[17,18].

This study evaluates the difference between pre- and post-menopausal breast cancer women regarding incidence, risk factors and presentation.

Aims And Objectives

The main aim of this study is to compare difference between pre- and post-menopausal breast cancer in women regarding –

- 1 Incidence
- 2 Risk factor
- 3 Presentation

Study Design: PROSPECTIVE OBSERVATIONAL STUDY

Place: RIMS, RANCHI

Duration: 2years (November 2019- October 2021)

Inclusion criteria:

- Patients who had natural menopause.
- Patients who attained menarche.

Exclusion criteria:

- Patients who have undergone hysterectomy.
- Patients who were having any other ovarian problem.
- Patients whose menopausal status was not specified.
- Patients who had a personal history of cancer other than breast cancer.

Procedure: A detailed history was taken and salient features were noted including demographic data, complaints with duration, Menstrual history, History of child birth and breast feeding, General examination- Built, Pallor, Jaundice, Cyanosis, Edema lymphadenopathy particularly axillary and supraclavicular. Local examination including **areola** (for any crack, fissure, ulcer or dimpling, **skin over the breast**(for any redness, dimpling, retraction, puckering, ulceration, fungating mass and peu-de- orange)and discharge, if any, was noted.

II. Observations :

Among 122 female patients, 49 (40.16%) patients were premenopausal and 73(59.83%) patients were postmenopausal. In this study, the age at diagnosis ranged between 15 -85 years with mean age of 45.7years. More than half (61%) of patients were diagnosed between 45-55years. About 29% were aged younger than 45years and 10% were aged older than 55years at presentation.

Table 1:Age incidence in premenopausal patients:

Age group	Premenopausal(N=49)	Percentage
<20years	3	6.1
21-30years	5	10.2
31-40years	29	59.1
41-50years	12	24.4
>50years	0	0

Majority of premenopausal patients were between third and fourth decade of their life (about 83.5%).

Table2: Age incidence in postmenopausal patients

Age group	Premenopausal(N=49)	Postmenopausal(N=73)
<40years	0	0
41-50years	36	49.3
51-60years	31	42.4
>60years	6	8.2

Majority of postmenopausal patients were between fifth and sixth decade of their life (about 91.7%).

Risk factors among pre- and post-menopausal patients

Table3 :

MENARCHE	Premenopausal(N=49)	Postmenopausal(N=73)
<13years	33(67.34%)	36(49.31%)
>14years	16(32.65%)	37(50.68%)

Table 4 :ATTAINMENT OF MENOPAUSE:

MENOPAUSE	Premenopausal(N=49)	Postmenopausal(N=73)
<45years	–	32(43.83%)
>46years	–	41(56.16%)

Table 5:

PARITY(no.of children)	Premenopausal(N=49)	Postmenopausal(N=73)
<3	32	16
>4	17	58

Table 6:

Breastfeeding	Premenopausal(N=49)	Postmenopausal(N=73)
Yes	47	71
No	2	2

Table7 :

Alcohol addiction	Premenopausal	Postmenopausal
Yes	0	6
No	49	67

Table 8 :

OC PILLS	Premenopausal	Postmenopausal
Yes	0	6
No	49	67

Table 9:

HRT	Premenopausal	Postmenopausal
	NO	NO

Table 10:

Family history	Premenopausal	Postmenopausal
Yes	3	1
No	46	72

Presenting complaints:-

All patients presented with a lump in the breast. Pain, ulcer, skin changes and nipple discharge were present in some patients along with a lump in the breast.

Table 11: Presenting Complaints

	Premenopausal(N=49)	Postmenopausal(N=73)
Lump	49 (75.5%)	73 (65.7%)
Pain	2 (4.0%)	3 (4.1%)
Ulcer	9 (18.3%)	21 (28.7%)
Nipple discharge	1 (2.0%)	1 (1.3%)
Skin changes	9 (18.36%)	10 (13.6%)

Table 12 :

DURATION OF SYMPTOMS	Premenopausal(N=49)	Postmenopausal(N=73)
<2months	3(6.0%)	7(10%)
2-6months	20(40%)	22(30%)
7-12months	19(39%)	33(45%)
>12months	7(15%)	11(15%)

SIDE OF LUMP: Out of 49 premenopausal patients, 26(61%) had lump in right breast and 23(39%) had lump in left breast.

Out of 73 postmenopausal patients, 41(56%) had a lump in the right breast and 32(44%) had a lump in the left breast.

Table :13

	Premenopausal(N=49)	Postmenopausal(N=73)
RIGHT	26(61%)	41(56%)
LEFT	23(39%)	32(44%)

SITE OF LUMP: In the majority of the patients, the lump was present in the upper quadrant in both pre- and post-menopausal women.

Table :14

Site of lump	Premenopausal(N=49)	Postmenopausal(N=73)
UPPER OUTER	30	58
LOWER OUTER	4	2
UPPER INNER	9	2
LOWER INNER	2	1
CENTRAL	4	10

TABLE :15

SIZE OF LUMP:

Lump size	Premenopausal(N=49)	Postmenopausal(N=73)
<2cm	4	0
2-5cm	24	34
>5	20	39

LYMPH NODE STATUS:

TABLE :16

NODE STATUS	Premenopausal(N=49)	Postmenopausal(N=73)
N ₀	3 (6%)	5 (7%)
N ₁	20 (41%)	22 (32%)
N ₂	25 (51%)	42 (59%)
N ₃	1 (2%)	4 (5%)

CLINICAL STAGING:

TABLE :17

STAGES	Premenopausal(N=49)	Postmenopausal(N=73)
I	2	0
IIa	2	4
IIb	17	13
IIIa	25	29
IIIb	2	22
IIIc	1	2
IV	0	3

Overall 81 patients were diagnosed with stage 3 disease in which 28 were premenopausal and 53 were postmenopausal women. Totally, 36 patients were diagnosed with stage 2 consisting almost equal number of premenopausal (19)and postmenopausal (17) women. 3 postmenopausal women were diagnosed with stage 4 disease in which 1 had lung metastasis, 1 with bone metastasis and one with brain metastasis and 5 with recurrence.

Biopsy was the conformation test in all patients; fine-needle aspiration cytology (FNAC) was done in all 122 patients and trucut biopsy/incisional biopsy done in37 patients. Ultrasound of both breast and both axilla is in all patients. Abdominal ultrasound, chest X-ray, complete blood count, liver function tests and renal function tests were also done to all patients regularly as a part of diagnosis and also for metastatic workout.

TABLE :18

FNAC	Premenopausal(N=49)	Postmenopausal(N=73)
Suspicious of malignancy	3	1
Carcinoma breast with axillary metastasis	44	70
Carcinoma breast without axillary metastasis	2	2

TABLE :19

USG of both breast and both axilla	Premenopausal(N=49)	Postmenopausal(N=73)
Carcinoma breast with axillary metastasis	47	70
Carcinoma breast without axillary metastasis	3	3

HISTOPATHOLOGICAL TYPES:

TABLE :20

Histopathological type	Premenopausal (N=49)	Postmenopausal (N=73)
Infiltrating ductal carcinoma	49	71
Lobular carcinoma	0	2

III. Discussion

The present study was conducted in Rajendra Institute of Medical Sciences, Ranchi, during the period from November 2019 to October 2021.

Age incidence: In this study, the age at diagnosis ranged between 15-85 years with mean age of 45.7 years and median age of 45 years with standard deviation of 11.70. More than half of patients (61%) were diagnosed between 45-55 years.

Majority of patients in this study were between the third to fifth decade of their life similar to studies reported from India and other Asian countries^[11]. A majority of premenopausal patients were in third and fourth decade of their life and the majority of postmenopausal were in fifth and sixth decade of their life

Risk factors: The risk factors for both pre-and post-menopausal patients were found similar other than late menopause in postmenopausal patients. The incidence of breast cancer in this study was found slightly more in postmenopausal women than in premenopausal women. In postmenopausal women majority of them attained menopause after the age of 45 years.

In this study, early onset of menarche was found to be associated with both pre- and post-menopausal patients as the majority of the patients in either groups attained puberty at an age of <12 years. The median age of menarche is 13years with a range from 11 to 15 years and standard deviation of 0.727. Risk of developing breast cancer increased in both pre-and post-menopausal patients who had early onset of menarche and late menopause possibly due to the increase in the duration of hormonal exposure.

In this study, majority of the women reached menopause after the age of 45 years. The study shows that mean age of menopause was 46 with a median of 45.61 & standard deviation of 1.24. Late menopause increases the risk of breast cancer.

High parity has generally been associated with low breast cancer risk in previous epidemiological studies.^[15,16] Null parity was associated with an overall increased risk of breast cancer.^[10]

Presenting complaint: In this study, lump in the breast was the chief presenting complaint of all the women in this study as reported in various studies.^[11,12,14,22] 2 patient presented with complaint of pain or nipple discharge. The problem of late presentation is mainly due to rural background, poverty and lack of awareness. Hence by educating the masses on self-breast examination and screening techniques, they can detect their disease themselves which could also help in early diagnosis of the disease.

Side of lump: In this study majority of patients presented in upper and central quadrant of breast in both pre and post menopausal women. 61% in premenopausal and 72% in postmenopausal women presented with breast cancer in upper outer quadrant of breast. The incidence of breast cancer was more in the upper and central quadrants of either side probably because of larger volume of breast tissue is present in that quadrants.^[6]

In this study for the diagnosis of breast carcinoma, fine needle aspiration cytology was done in all patients. Trucut and incisional biopsy was done in few patients .ultrasound of both breast and both axilla was also done in all patients. Apart from these tests abdominal ultrasound, chest X-ray, complete blood count, renal function tests and cardiac tests were done periodically to assess the patient condition and also as a part of metastatic workup.

Histopathological types

As reported in most of the previous studies in this study also, infiltrating ductal carcinoma was the prominent histopathological type.^[11,12,20,21] Other type include lobular carcinoma. There was not a single case of

carcinoma *in situ* reported. Assessment of hormone receptor status done for which TAMOXIFEN or ANASTRAZOLE given after completion of chemotherapy. Most of the patients were found either estrogen positive or progesterone positive and majority patients were lymph node positive.

Clinical staging: Majority of the patients (81%) were diagnosed at stage 3 collaborating with the epidemiological data^[1] Stage 4 disease was presented only by postmenopausal women probably due to advanced age. Patients with stage 1 disease were half to the number of patients with stage 4 disease. This reflects that the population lacked awareness of the disease.

SUMMARY:

The study was conducted in Rajendra Institute of Medical Sciences, Ranchi between November 2019 to October 2020 Study which emphasized on Incidence, Risk factors, Presentation, Tumour characteristics involved in carcinoma breast.

1. Among 122 female patients, 49 patients were premenopausal and 73 patients were postmenopausal.
2. In this study, the age at diagnosis ranged between 15 -85 years with mean age of 45.7years. More than half of patients (61%) were diagnosed between 45-55years. About 29% were aged younger than 45years and 10% were aged older than 55years at presentation.
3. Majority of patients in this study were between the third and fifth decade of their life. A majority of premenopausal patients were in third and fourth decade of their life and the majority of postmenopausal were in fifth and sixth decade of their life.
4. The risk factors for both pre-and post-menopausal patients were found similar other than late menopause in postmenopausal patients.
5. Majority of the patients had duration of symptom of 2-6 months and presented stage III disease in premenopausal. Majority of patients had duration of symptom of 7-12 months and presented stage III disease.
6. The most common mode of presentation for both premenopausal and postmenopausal patient was lump (100%). Next common presentation was ulcer and skin changes.
7. The distribution of the lump was more over the upper outer quadrant for both premenopausal (62%) and postmenopausal (79%) patients compared to other quadrants.
8. The majority (49%) of the premenopausal patients had tumor between 2-5cm in diameter before medical seeking and majority of postmenopausal patients (53%) had tumor size more than 5cm.
9. The majority of the pre and post menopausal patients had infiltrating ductal carcinoma. Only two postmenopausal patient had lobular carcinoma in this study.

CONCLUSION:- Even though there has been a significant improvement in the management of the disease in the last few decades the effective cure of the disease requires reporting to the hospital in earlier stages of disease which was lacking in this locality. The study emphasizes the need of awareness and public education regarding carcinoma breast and its early detection for both premenopausal and postmenopausal women.

Bibliography :

- [1]. Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM. Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. *Int J Cancer*. 2010;127:2893–917. PubMed
- [2]. Bonnier P, Romain S, Charpin C, Lejeune C, Tubiana N, et al. (1995) Age as a prognostic factor in breast cancer: relationship to pathologic and biologic features. *Int J Cancer* 62: 138-144.
- [3]. Fauci A, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J. 17th ed. New York: The McGraw-Hill Companies; 2008. *Harrison's Principle's of Internal Medicine*; pp. 516–22.
- [4]. Gallucci BB. Selected concepts of cancer as a disease: From the Greeks to 1900. *Oncol Nurs Forum*.1985;12:67–71.
- [5]. Kumar V, Abbas AK, Fausto N, Mitchell R. 8th ed. Philadelphia: Elsevier Saunders; 2007. *Robbins Basic Pathology*; pp. 173–224.
- [6]. Adami HO, Malke B, Holmberg L, Persson I, Stone B (1986) The relation between survival and age at diagnosis in breast cancer. *N Engl J Med* 315: 559-563.
- [7]. Cauley JA, Gutai JP, Kuller LH, LeDonne D, Powell JG. The epidemiology of serum sex hormones in postmenopausal women. *Am J Epidemiol* 1989;129:1120-1131
- [8]. Tretli S. Height and weight in relation to breast cancer morbidity and mortality: a prospective study of 570,000 women in Norway. *Int J Cancer* 1989;44:23-30
- [9]. Lew EA, Garfinkel L. Variations in mortality by weight among 750,000 men and women. *J Chronic Dis* 1979;32:563-576
- [10]. Lilienfeld AM. The relationship of cancer of the female breast to artificial menopause and marital status. *Cancer* 1956;9:927-934
- [11]. Feinleib M. Breast cancer and artificial menopause: a cohort study. *J Natl Cancer Inst* 1968;41:315-329
- [12]. Rosner B, Colditz GA, Willett WC. Reproductive risk factors in a prospective study of breast cancer: the Nurses' Health Study. *Am J Epidemiol* 1994;139:819-82

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