Original Research Paper

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Demographic Distribution & Clinical Spectrum of Breast Carcinoma in Southern Rajasthan :- A Retro-Spective Analysis (1992-2015)

Medical Science

KEYWORDS : 1Breast cancer 2repro ductive factors 3 nurional factors

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ABSTRACT

Back ground:--*Breast cancer is the second most prevalent cancer in women. Breast cancer is common in developed ,developing & underdeveloped countries. All over world researches are going to know its causative factors/ etiology . Among them demographically[age ,age of menarchy,social status], reproductive harmons ,nullypara,&nutrional,& contraceptive pills are important factors. Demografic analysis& comperision With orher parts of/ developed countries is the main aim of the study.*

Material &method:--*The present study was planned on data of 1493 patient of carcinoma of breast collected from breast CLinic[MB govt hospital Udaipur dept.of surgery& AIIMS dept. of surgery udaipur]from 1992 to dec 2015.where womens suffering from carcinoma of breast first come under gone surgery / taken treatment chemotherapy, radio -therapy.*

Result:--*As it is stressed in theories &present as causative factors in developed countries that reproductive hormones, early menarche , nullypara ,alcoholism, smooking & contraceptive pills are important causative factors of carcinoma of breast. But these are not found so impressive causative factors of breast cancer in our Region as studied in 1493 breast clinic cases.*

Conclusion:-- *More research are also needed to find out the etiology /casetive factors of development of carcinoma of breast. Asit is more common in developed countries where breast cancer is more prevalent than India. Integrated causative factors which are more present in developed countries women might be an important causative factor of carcinoma of breast.*

Introduction:---

Breast cancer is a 2 nd most prevalent cancer in women & commonest cause of death .All over world research are going on. On its causative factors. Among them nutritional & hormonal factors are important. As breast cancer is caused by repeated exposure breast cells to circulating ovarian hormones. Clinical, animal & epidemiological studies have clearly demonstrated that carcinoma of breast is a hormonally mediated diseases & several factors that influence hormonal status are markers of change in hormonal status have been shown to be associated with the risk factors of breast carcinoma. A verity of constitutional risk factor have been reported, such as nulliparity, early onset of menarchy, delayed first child birth, late manopouse and decreased parity. These risk factors pointed towards endogenus estrogens as likely player in initiation, progretion and promotion of breast carcinoma. Nutrition in the broadest cense place a role in breast cancer, identified through its relationship to known risk factors that properly act early in life. Though a large number of women are affected with breast cancer. Very few studies have been undertaken in India on the female harmonal factors with breast carcinoma.

We conducted a retrospective study to identify the association of various reproductive & socio economic& religion, histopathological &hormonal recptor factor with breast carcinoma

Observation

from 1992 to2015 total 1493 patient .In present study below 30 years of age [5.32%] pts. 214 [24.76%] .Majority of pts. Between 41 to 50 years of age 259[29.97%] while 5 to 60 years segment containg 208 [24.07%]. Pts 137[15.85%] more than 60. Median age of all 864 is 48 years.

MATERIAL &method

The present study is a hospital based breast- clinic, , retrospective[1992 to 2015] conducted in Maharana bhupal govt. hospital of RNT medical college at Udaipur& GBH American hospital Udaipur [Southern Rajasthan] .department of surgery in breast clinic.

All finding will be noted in a standared performa.

OBSERVATION :---

IN breast clinic 1st year 8 pts were registered, in second year 6& than increased in No. 15,22,24,39 ,46,77,&79 from 1994 to 2000. In 2001 No. of pts 100 2002 pts. 70 2003 pts 86 2004 pts 110 2005. Total 1493 patient were registered , with median age of 48 year.

Table no-1

Demographic distribution of cases according to religion,socio economic status ,age and residence of patient in breast clinic: From 1992-2015. Total no of cases 1493 of carcinoma of breast

Religion n=1457			Socio economic status n= 1469				Age n=1491					Residence n=1493	
Hindu	Muslim	Christian	High	Medium	Lower & BPL		< 30	31-40	41-50	5160	61-70&>	R ural	Urban
1293	147	17	22	685	762		75	351	445	375	245	838	655
86. 74%	10.08	1.66%	1.49%	46.63%	51.87%		5.03%	23.54%	29.84%	25.15%	16.43%	56.12%	43.87%
36 pts. religion is not known. HINDU			24 socio economic status is not known. MEDIUM& POOR				Median age is=47.51					Rural	

Residential Status & Religion ;-- From 1493 pts. of breast carcinoma 838 [56%] came from rural &665 [44.%] from urban. Among them Hindus were 1293[86.6o%] Muslim 147 [10.08&] & Christian were 17 [1.66%]

Socio-Economic; From high socio economic class 22 pts registered. But majority are from middle socio economic class 685pts [46.63%] , second most from low socioeconomic class& poor class762 [51.87%] .

Table No. 2

Demographic Distribution of cases of breast cancer according to age of menarche ,age of 1st child birth ,Parity and age of menopause in breast clinic from 1992-2015

Age of menarche n=1207			Age of 1st childbirth n=1165			Parity n=1249			Age of menopause n= 1493	
10-12 E	13-16 N	17-17 L	16-20 E	21-25 N	26-3o L	o- > 2	2 -4	5 &>5	Pre Men	Post Men
27 2.23 %	829 68.68 %	351 29.08 %	692 59.39 %	387 33.21 %	86 7.38 %	232 18.57%	839 67.17 %	178 14.25 %	737 49.69 %	746 50.30 %

10 patient under gone hysterectomy.

Menstruation;
Among all pts 746 pts were post- menopausal,737 are pre-menopausal, while 3pts never menstruated.&7pts menstrual status is not known.

Age of menarche.;-
10-12 years of age 27pt. started early mences,in 829 pt 13 to 16 years in351patient to 17 & late.

FIRST child birth;-Among1249 pts 692 -1st child birth was between 16to 20 years of age 59.39% ;& 386 [33.21%] at age between 21 to25 .years.86 pts 7.38% delivered 1st child between 26 to30years or more than 30 years.

Menopause--
Out of 1493 pts 10 were hystrectomised. Premenopausal 737[49.69%] &746[50.31%] pt were postmenopausal.

Table No,3
Total No.of Breast Cancer in 1493 .hormonal Status of 575 is known according to table no.3

ER	PR	HER 2 NEW	TNB
174+IVE	167+IVE	76 +IVE	TNB91
256- IVE	262 -IVE		

According to table from 575 in which hormanal study is done.out of these 174 (30.05%) ER Positive and 91 were TNBC Patient.

Staging of breast cancer
N=1145

Early n = 1145	LATE n = 1145	Lymph node n = 777
T1=76	T3=348	L0 L1 L2 L3
T2=589	T4=132	313 368 85 11
665	480	

Site of tumor; Tumor on left side was more common [758-50.19%] than on right side710[47.80%] & bilateral tumor was found in 25 cases[1.50%]

Lesions; In1393 pts tumor could be assessed in 1281 pts [single lesion [91.97%] while 58 pts [4.16%] pts were having more than one lesion

Family h/o –Among all pts 115 pts were having family history of carcinoma out of these 71 were having carcinoma of breast while 44 were having history of some other cause of carcinoma.

Histopathologicalloy---histopathologically most common diagnosis is Intra- ductal carcinoma found in 1260[84.39] cases.& second most common medullary carcinoma with lobular carcinoma in39 pts[2.61%] sixteen pts were having Pagets disease' in 35 patients were diagnosed some other carcinoma.

Menstrual status verses tumor size ; premenstrual tumor size was 5.55cm. as compared to 5.64 cm. in post menopausal patients.

Relation of tumor size with Lymph node;- patients have lymph node positively in186[39.56%] with mean tumor size of 5.63cm..on the other hand in expired pts lymph node were 9 5[63.21%] pts with a mean tumor size6.4cm. & is showing statically significance.

Tumor size verses lymph node status------lymph node positive pts i. e. in 777 [52.89%] mean tumor size was 6.17 cm. & on other hand in lymph node negative patients tumor size was 4.82cm..

Distribution of ER/ PR status in breast cancer of 1181pats in which receptor study has been done in341 are both ER/ PR + ive , 6 pts are ER+ive &PR_negetive,11 pts are ER negative & PR + ive & 83 pts are ER-PR negative.

Extent of disease at the time diagnosis; most of pts were in second stage 589 [50.30%[. The384pts was [27.32%] in third stage.132 pts was in fourth stage, only 76 [13.30%] pats presented in first stage. But due to education [breast clinic rural camps],increased socioeconomic & awerness about health as well as cancer disease trend of early stage pts increased.

Out come of all the pts-----the out came of retired data from follow up of 1181 pats . till the last follow up 583 [47.50%] pts have disease free life [survival] but in 118 patient [10.10%] causes loco regional reccurence has been found.IN 150 pts distant metastesis have found.,, out of these 99 have single organ & remaning 51 have multiple organ metastasis. Total mortality in our study is 290 [24.16%.]

Shows that from timely MRM& BTP of pats become disease [cancer] free& leaving long & healthy life. So in our study it shows our breast clinic performance is good in retrospective of treatment, surgically[MRM& BTP + chemotherapy& also making awareness of people[women] to show if there is any lesion [swelling] in breast.

Relation of survival with parity age, stage, residential status, menstrual status & family history & their statical significance;. According to table survived 41.01% pts were having parity less than two. 40.23% pts were having between 3-4. Five or more 18.75% in18.75%. WHERE among expired pts 35 [41.82]pts had parity less than two ,38.82%[33] cases parity was between 3-4&in 17 cases[19.54] parity was 5 or more. So parity is not showing statical significance with survival.

In age wise survived 15. 01% cases were below 35, eighty pt. fall in 36-45 years of s

DISCUSSION-------
breast cancer is showing typical trend of rise with increasing age in all population .it has been brought to a static level in some highly developed countries with obvious

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decline in incidence also but it continues to rise unabated in developing & many developed population .

Epidemiological factor in cancer is to know[a] pre- velence [b] causes like risk factors, genetics [Hirose K et al 2001-1] , reproductive hormones [Bhadoria AS et al 2013-2] . In India cancer registry is still in infancy[Mani H etal 1997-3] & more so in rajasthan & major parts of India[ICMR2oo1-4] .Breast cancer is highest in female, it is second to carcinoma of cervix.In present study is a retrospective study in which Epidemiological & clinical data were collected from Breastclinic department of surgery Maharana Bhupal govt. hospital Udaipur& GBH AIIMS during 1992 to 2015.

Among all 1493 cancer breast pts 99.97% are female & 7 are male[0.03%] In present study breast cancer is more prevelant in rural population 58.91% than urban are 41.08% it is obviously a disease of poor socio economic class 465[53.81%]which in contrast to the other parts of country as only 1.85%that is 16 pts are pts of cancer breast from high socioeconomic class that is because institution is in tribal and rural belt . Nulliparous women[peters PH et al 1995-5], early menarche [Mac Mahon B et al1982 -6& Mac Mahon B et al 1970-7] and late age delivery with prolong menstrual span are reported to increase the risk of breast cancer whereas early age child birth with and late menarche, high parity& Prolong lactaion are reported to confer protection against carcinoma of breast..

Breast cancer incidence is higher with higher age group more than 55years in our study postmenopausal women are more in number746 or50.62% & premenopausal 737 or 48.37% but at the time of diagnosis the age group is more between 41to 50 years 29.97%.The second most common group is between 31to 40 years [24.76%]&after word51 to60 years 24.97%.the mean age is found 47.51 years

Nulliparous women, early menarche, first full term delivery at late age prolong menstrual span are reported to increase risk of disease.

Where as early age child birth& late menarche are protective factors . Our study does not support these presumption .As in our local population 40.20% women ages menarche is between 15to 16 in 38.65% case menarche is 17years or more as shown in table.

In this study 246 [53.71%] pts had menopause below 45 years of age.

The established & probable risk factor are an elderly female in a Developed country whose menarche is before 11years of Age & late menopause after 54 years. ,with Atypical hyperplsia

In breast and belong to 1st & 2nd socioeconomic group with high intake of saturated fat [JOnes DY et al 1987-8] with high in take of alcohol [Le MG et al 1984-9]& on contraceptive pills[VAN Hoffen et al 2000-10] ,with hormonal replacement therapy with diethyl stilbestrol during pregnancyKelsey JL et al 1981-14] .

High parity was overall reduce risk of cancer breast ..RAO DN et al[1994-15] found nullyparous women had 2.2 times the risk compared to parous women.

Late marriage 30 or above& late age of 1st pregnancy[after 30] showed an increased risk[Mac Mahon B et al 1970-16] of 2.5 compared to a women married at14 &1st child in 14year & below it .3or more pregnancy show ed 40to 50% reduction in risk.

Another interesting observetions lowers incidenceof breast cancer in women is late menarche. [Mac mahon B et al 1982-17]

Pts in our study usually fed[lactating] their baby for a longer period[Mc tiernan A etal 1986-18] & have more number of children& usually do not take exogenous harmone, they are usually line& thin involved in sternous physical activity put them in low risk group[Handerson M M 1995-19]& Micheles K B [2002-20] but still risk is continuos to rise in rural populatin.women in this region idulgede in smooking&poor nutritional status with lake of fruits & vegitabels .

In S0uthern – Rajasthan [Udaipur]Hindu ,Muslim,\& christen are 90% ,9%,1% respectively are in population .Udaipur population is very poor& ilitrate. So they seeks medical advise in advanced stage, asin2004 64.30 % pts had 3rd stage 2nd & only 3.6% in stage 1st .[Mehta G et al 2004-21].But with passing time trend has changed after2004 that 50.30% had 2 nd 27.32 had 3rd 13.30 had1st&9.06 had 4th stage. One of the important factor likely to be the better awareness regarding breast carcinoma, knowledge of early disease sympt0ms& health services because of campaigning & comparatively better economic status.

In our pts 8.76% had family history of cancer suggesting that hereditary predisposition supports [Bain C, et al 198o-22] 5%to10%western women with breast cancer have genetic predisposition .Over all risk of breast cancer in BRCA 1& BRCA 2 mutation carries in estimated to be twenty folds than general population . Histological intraductal carcinoma is most common[90.26%],Lobullar carcinoma [2;72%] Pagets disease is almost equally distributed both sides. Bilateral tumors are found in 1.5% of cases &certain factors like presence of palpable lymph nodes has influence on mean tumor size,we could retrieve data of 364 for follow up 67.50 pats had disease free survival&6.11 pts had loco regional recurrence . Metastasis developed in above 12% cases with 8.33% in single organ& remaining 3.88% in multipal organs. Mortality was found to be 24.16%.Large percentage of them were poor or very poor,& in such pts superimposed risk due to poor nutrition seem to be contributing factor for early death.

Among other pts related factors [parity ,age .,stage ,residence, menstrual status & family history] which we have included in our study, parity is not showing any significance effect on survival as41.01% pts

among survivors had parity 5 or more& among expired 19.54%

had parity 5 or more. Similarly age difference is not significant stasticaly. Clinical stage seemed to have major impact on mortality,in early stage group there is significant impact on mortality[1.19%].On the other hand in stage 4th, only 6.14 survival with 14.28% mortality has been found. Stage 2nd&3rd is not showing any statically significant difference. Similarly residential status has not affected mortality in our study as with menstrual status. Pts with family history also do not show any significant influence on mortality.

Receptors studies are important prognostic tools to breast cancer. Due to unavailability &poor socio ec0nomic status it could not be done in each & every pt. we could do in 50 pts where few fact have emerged. In local population

tumors are to be ER-PR negative [63%cases]& rural population has low ER positivity than urban population[18% v/s 28%]. One of the very important factor was that expired pts were 100% ER-PR negative[Mannisto S et al 1996] & contraletral breast cancer was commonly found in ER-PR negative pts.

Although significant advances have been made in the management of breast cancer which saved a significant number of lives ,but till today, no definitive etiology of breast cancer is found ,screening for breast cancer in developing countries remains far fetched dream. There for early diagnosis of disease remains hallmark for better out come .Starting breast clinic in this remote area of country is a very -very benifitial to local population to be conscious for early diagnosis & treatment surgically and chemotherapy. that's why in the starting of breast clinic pts used to come late with advanced stage tumor breast cancer to them Radio –therapy was only treatment in that neither pts were hope full nor doctors were.

SUMMARY & CONCLUSION ;--

1. Prevalence of breast cancer is 2.48% in registered patient of breast clinic.

2 majority of patient belong to rural population than urban [56.12%v/s 43.87%].

3Hindus are affected more[86.74] than Muslim& Christian.[10.08%v/s1.66o%.

4; 23.54% pts are less than 40years of age the commonest age group was fund to be in41-50 years [median age47.51 years]

5, low socio economic strata got affected maximum than middle &high class[51.87%,46.63% &1.49% respectively]

6, 90% of pts delivered their term 1st child before the age of 25.years.

7,Post menopausal pts out number premenopasal pts[56.32%v/s 43.37%]

8, more than 78.85% of pts had their mennache between 15 -17 years& more than 50% pts had menopause before 45 years.

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