Common Determinants of Ca Breast - A case control study in Lahore

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Background Ca breast is commonest malignancy in females all over the world and 2nd leading cause of death in females. In Pakistan, it is more common in young age (incidence in 30-39 years) contrary to west (over 65years). Genetics ,use of oral hormonal contraceptives, prolonged hormonal replacement therapy, environmental hazards and parity are also considered to play an important role in causation of ca. breast .This morbidity pattern of young age in Pakistan is a real concern for the health care planners and providers. **Objectives:**-To know the etiological factors in the area, to formulate a public awareness programme for reduction in mortality and morbidity due to breast cancer in Pakistan **Study design:**-Case Control Study. **Place and duration of the study**: - Mayo and INMOL hospitals. Jan-June, 2005.**Respondants and methods:**-Pre- tested questionnaire was used to interview the cases and control groups **Results:**-Ca breast is significantly more in married, young age, with 3 or more children, breast feeding mothers. **Conclusion:** - Early marriages environmental hazards, genetic predisposition and hormonal imbalance are the most important suspected causes. Cancer awareness and screening programme with community participation are the best feasible approaches for rectification of the situation.
Key words:- Ca breast, Determinants

Ca breast is commonest malignancy in females all over the world and 2nd leading cause of death in females after lung cancer. Rates are significantly higher in developing countries as compare to developed countries except Japan[1]. In Pakistan, surprisingly it is more common in young age. Peak incidence in 30-39 years and it is contrary to west where peak is over 65 years[1]. Results of different studies conducted in Pakistan revealed that 44% cases are in pre menopausal and 18% under 35 years which is lower than western women[2,3,4]. Although one study has shown figures a little bit higher with average at 46 years, 60% below 50 years[5].

Genetics plays an important role in causation of cancers. In cross-sectional studies of adult populations, it was found that 5- 20% of women have a mother or sister or close relative with breast cancer[6]. In a pooled analysis of 38 studies, the relative risk of breast cancer conferred by a first-degree relative with breast cancer was 2.1 fold[7]. Use of oral hormonal contraceptives, prolonged hormonal replacement therapy and parity are also considered to play an important role in causation of ca. breast. 42%cases have 4-5 children[5,8].

This morbidity pattern of young age in Pakistan is a real concern for the health care planners and providers. In these circumstances, early identification of breast cancer with medical and surgical interventions and close surveillance are best options to reduce prospects of malignancy. But for timely use of these options a complete knowledge of the distribution pattern of the problem, geographical, religious, ethnic, socioeconomic and health profiles is a dire need.

This study was designed to know all such information to complete the natural history of problem and to know the etiological factors in the area, so that a good public awareness programme can be designed and launched to decrease the mortality and morbidity due to breast cancer in Pakistan.

Materials and methods

This case control study was conducted at surgical and oncology units of Mayo hospital, and INMOL hospital Lahore.105 diagnosed cases of breast cancer were selected on the basis of history and biopsy report. And 105 controls were selected from the hospital and community having same profiles as of cases but no breast cancer. Both the cases and controls were interviewed by on the job trained medical students, on a structured and pre-tested Performa.

Data was collected, tabulated and analyzed by applying Chi Square test of significance, using Epi Info statistical package.

Results

Table 1: Cancer of breast and marital status

Parameter	Status	
	Cases	Controls
Married	100	90
Unmarried	5	15
Total	105	105

Calculated X value at .05 probability with 1 D.F. = 5.53. As the x value is more than 3.84 so the difference observed is statistically significant

Table 2: Cancer of breast and parity (No of children)

Parameter	Status	
	Cases	Controls
3 or more	65	44
1-2	40	61
Total	105	105

Calculated X value at .05 probability with 1 D.F. = 8.41. As the x value is more than 3.84 so the difference observed is statistically significant

Table 3: Cancer of breast and age in years

Parameter	Status	
	Cases	Controls
Less than 45	90	44
45 or more	15	61
Total	105	105

Calculated X value at .05 probability with 1 D.F. = 43.6. As the x value is more than 3.84 so the difference observed is statistically significant

Table 4: Cancer of breast and length of reproductive life (years)

Parameter	Status	
	Cases	Controls
More than 15	57	37
15 or less	48	68
Total	105	105

Calculated X value at .05 probability with 1 D.F. = 7.68. As the x value is more than 3.84 so the difference observed is statistically significant

Table 5: Cancer of breast and age at first child birth (years)

Parameter	Status	
	Cases	Controls
Before 30	24	39
After 30	81	66
Total	105	105

Calculated X value at .05 probability with 1 D.F. = 5.08. As the x value is more than 3.84 so the difference observed is statistically significant

Table 6: Cancer of breast and breast feeding

Parameter	Status	
	Cases	Controls
Breast feeding	32	47
No breast feeding	73	58
Total	105	105

Calculated X value at .05 probability with 1 D.F. = 4.54. As the x value is more than 3.84 so the difference observed is statistically significant

However the observed differences in cases of income of the family, education of respondent females, working status of respondents, life style, use of oral contraceptives and nutritional status of the respondents were statistically non significant.

Discussion:

The findings of the study as regards the significance of age, parity, marital status, age at first child and length of reproductive life in relation to breast cancer is quite similar to the findings of other studies. The most alarming finding from this as well as other studies is the fact that in Pakistan the average age of patients with ca. breast is lower as compare to the rest of the world and it is may be due to a combination of early marriages (a common practice in Pakistan), environmental hazards and age at exposure, genetic predisposition and hormonal milieu[1].

Although in our study, significant role of oral contraceptives and incidence in close relatives is not established, but growth of breast tissue is highly sensitive to estrogens, and the more a women is exposed to estrogen over her lifetime, the more she is prone to Ca breast, like use of high-dose oral contraceptives , postmenopausal hormone replacement therapy[8].

Chemicals with estrogen-like effects, (xenoestrogens), found in pesticides and industrial products have been under suspicion for years.. Unchecked use of pesticides and undue exposure to radiations is also common in Pakistan and can add to causation for cancers[9,10].

Public awareness programs for screening and early detection of breast cancer has reduced death rate due to breast cancer by 30% in UK. USA is also following[11]. This target can also be achieved in Pakistan by launching a good awareness and cancer screening programme (self examination and mammography) with community participation. But low literacy level in females, gender discrimination and lack of women empowerment are hurdles and leads to lack of awareness in females about their health problems even in malignancies. It is therefore needed that a detailed study may be conducted to access the community potential to participate /contribute in public awareness programs for breast cancers with in its geographical, cultural and religious scenario.

Conclusion:

- Carcinoma breast occur at younger ages in Pakistan as compare to western countries.
- Early marriages environmental hazards, genetic predisposition and hormonal imbalance are the most important suspected causes
- Cancer awareness and screening programme (self examination and mammography) with community participation are the best feasible approaches for rectification of the situation.
- Younger close relatives of patients of ca. breast must be under close observation.

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