PATTERN OF HISTOLOGICAL TYPES OF BREAST CANCER AMONG VARIOUS AGE GROUPS IN THE NIGER DELTA.

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BACKGROUND: With breast cancer being a most common scourge in the country, there is need to define the epidemiological pattern of breast cancer patients in the Niger delta; assessing their age distribution and histological types towards improved health care planning.

OBJECTIVE: To determine the pattern of histological types of breast cancer among various age groups in two major hospitals in the Niger Delta.

DESIGN: Descriptive study.

SETTING: Central hospital Warri, Delta state and University of Benin Teaching Hospital, Edo state.

SUBJECTS: The biodata and histological type of 216 breast cancer patients seen at both hospitals between 2000 and 2010 were extracted from hospital records, collated and analysed using simple descriptive statistics.

RESULTS: The age range was 20- 92years. Fifty six percent of cases occurred between 30-50 years. Mean age was 48.12 years_+ 14.33, median age 48 years and modal age range 36-40 years. Invasive ductal carcinoma was the commonest histological type at 87.0%. Intraductal carcinoma was very minimal at 4.4%. The right breast was involved in 49.1% and left breast, 50.1% of cases. One case of bilateral breast cancer was noted.

CONCLUSION: Breast cancer in the Niger Delta commonly occurs at premenopausal ages. A majority occurring between the third to fifth decade of life. Invasive ductal carcinoma is the commonest histological type.

INTRODUCTION:

Breast cancer is the most common malignancy in Nigeria and globally.[1] Its prognosis in Nigeria is dismal consequent on the late stages of presentation. Studies have shown that the Nigerian breast cancer woman presents at a mean age of 47 years, being an earlier age than the 60 years of her Western counterpart.[2,3] Earlier research has shown in all populations that the incidence of the disease begins to increase from age 20 years up to 50 years. Subsequently there is a reduction in the rate of increase up to 75 years when it starts to decline.[4] There is a need to define the epidemiological pattern of breast cancer patients seen in the Niger delta; assessing the age distributions, and histological types. This becomes useful for healthcare planning and in developing earlier diagnostic as well as treatment strategies.

Earlier reports have indicated a sizeable number of breast cancer patients in the country being young . Anecdotal reports suggest that young, Niger delta women are unlikely to accept a mastectomy in the earlier stages of breast cancer. Defining percentages of young patients may persuade policymakers in adopting more conserving breast surgery in suitable cases without compromising survival. Also defining histological types of breast cancer may determine the percentages of aggressive histological forms of breast cancer in our women with their treatment and prognostic implications.

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PATIENTS AND METHODS:
This retrospective study was done on patients seen at the University of Benin Teaching hospital, Benin Edo state and Central hospital Warri, Delta state. These hospitals are located in adjacent states and constitute major stakeholders at healthcare delivery in their respective states. The available records of patients diagnosed with breast cancer from 2001 to 2010 were consulted and relevant information extracted. The diagnosis of breast cancer was made following histopathology examination done by trained pathologists at the two study centres. The ages were recorded as the chronological years of the patient at the time of histological diagnosis. The side of the breast with the cancer was recorded as well as the histological type. Overall there were 216 cases with a diagnosis of breast cancer. Data from the cases were then collated and analysed. The frequency of breast cancer cases tor each age group was collated. Simple descriptive statistics was used in interpreting the data.

RESULTS;
The records of 216 breast cancer patients were used in this study. Age range was 20 - 92years. Mean age was 47.58 years+_ 14.33, median 48 years and modal age range 36-40 years. Invasive ductal carcinoma had the overwhelming majority of histological types at 87% of all the cancers, lobular carcinoma,3.6% and intraductal carcinoma, 2.4%. The left breast was involved in 50.6% and the right breast in 48.9% of cases. A bilateral case was recorded.

TABLE 1   FREQUENCY DISTRIBUTION TABLE

Age range(years)	Frequency(n)	Frequency %
10-15	0	0
16-20	1	0.46
21-25	1	0.46
26-30	11	5.09
31-35	32	14.81
36-40	37	17.13
41-45	25	11.57
46-50	33	15.28
51-55	17	7.87
56-60	12	5.56
61-65	20	9.26
66-70	17	7.87
71-75	4	1.85
76-80	1	0.46
81-85	4	1.85
86-90	0	0
91-95	1	0.46
TOTAL	216	100

TABLE 2   FREQUENCY DISTRIBUTION OF HISTOLOGICAL TYPES

Histological Type	Frequency	Frequency %
Invasive Ductal	147	87.0
Invasive Ductal with mucinous	2	1.2
Intraductal	4	2.4
Lobular	6	3.6
Phylloides	3	1.8
Medullary	2	1.2
Non-Hodgkin's	1	0.6
Plasmacytoma	1	0.6
Mucinous	3	1.8
Papillary	1	0.6
Adenoid cystic	1	0.6

TABLE 3

ANATOMICAL DISTRIBUTION

RIGHT BREAST   85   48.9%

LEFT BREAST   88   50.6%

BILATERAL   1   0.6%

FIGURE 1
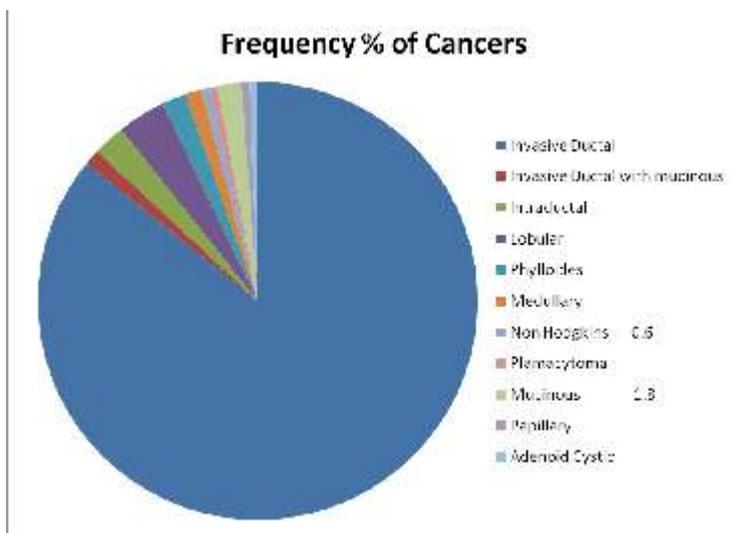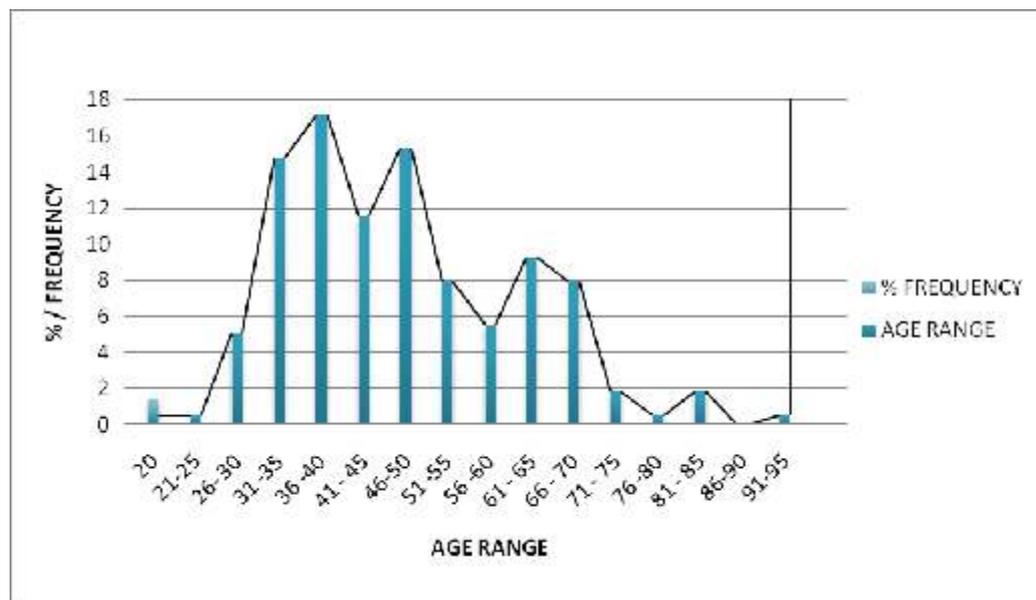
FIGURE 2

DISCUSSION:

Breast cancer continues to be a subject of raging interests in the global medical community. Our study shows 65% of cases occurred at 50 years and below; 50% occurring between 30 and 45 years. This report illustrates the dominance of premenopausal breast cancer in the country; the age at menopause of a Nigerian woman being 48.4years.[5] The result is favourable with local reports ranging from 57% to 67% premenopausal cases [,6,7,8] and 60.5% from Egypt. Lower values at 26% of incident cases have been reported from the United states.[9]

Local investigators have attributed the higher incidence of premenopausal breast cancer to population demographics.[1] This is put in perspective with a life expectancy at birth in Nigeria of 51.9 years.[10] Thus women in the country may not live long enough for postmenopausal breast cancer. Emerging reports holds that the incidence of premenopausal breast cancer is higher in African–Americans than in their Caucasian counterpart inspite of a life expectancy at 74 and 80years respectively.[11] One study has shown 18% higher levels of endogenous sex hormones in African-Americans compared to Caucasians.[11] It is documented that oestrogen is an aetiological factor in breast cancer. Thus, genetic factors including hormonal levels may need to be investigated in accounting for this racial variation.

In this study, the mean and modal ages were 48years and 46-50 year range respectively. This was favourable with other local studies with mean ages ranging from 46.1 years to 48.8 years.[5,7,12,13] Reports from the United states indicates a mean age of 44 and 73 years for early and late onset breast cancer respectively and a bimodal frequency of near 50 and 70 years. At a peak age range of 46-50 years, our study compared favourably to these reports. Our study showed three peak age ranges at 31-35, 36-40 and 46-50 years in keeping with earlier reports[1,5,14] Early reports indicate the disease occurs a decade earlier than the Western world being premenopusal and perimenopausal.[15]

The elderly, at 65 years and above constituted 13% of the cases. This may reflect the

demographics of a young Nigerian population. This is much lower than 30-50% from the United States. This is explained with the elderly population constituting 4.9% and 12.9% respectively in Nigeria and the United states. [16,17]. In our study, underreporting among the elderly cannot be ruled out. Oftentimes, the elderly tend to be neglected. Also being largely uneducated they may not seek orthodox care.

Invasive ductal carcinoma was the commonest histological type of cancer seen in our study at 87% of the cases. This compares modestly against other local reports at 75% and 83%.[18,19] Western reports from the United States shows 75% composition. [20] Lobular carcinoma, a distant second histological type at 4% compared favourably with local reports of 6.6%.[19] A higher occurrence in the United states at 15% has been reported. [20] In our study, two cases of medullary, one papillary and three mucinous carcinomas were recorded. There is evidence that this category of breast carcinomas have lesser mortality compared to ductal carcinoma; having less aggressive phenotypes, lesser tendency to be node –positive or hormone receptor negative.[20] Inflammatory carcinomas, rare but the most aggressive histological type with more tendency to be node positive, hormone receptor negative and having a high grade;[21] were not noted in this study. Intraductal carcinoma made up 2.4% of the cases comparing against a report of 6.4%. [22]Reports from the United states show intraductal carcinoma constituting up to 20% of all breast cancers detected by screening.[23] This relative large disparity may illustrate the need to commence a screening programme locally as Page et al have noted that breast carcinoma begins as an intraductal component. [24]

The histological assesment being done by different pathologists in different institutions, individual biases with differing identifying criteria resulting in some misclassification errors, may not be ruled out.[21] However our results compared favourably with other studies.

CONCLUSION:
A majority of breast cancer patients are in the third to fifth decade with the elderly constituting a small fraction of the patients. Young, premenopausal women constituted the bulk of breast cancer patients. Invasive ductal carcinoma was the commonest histological form.

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