

# The Pattern of Male Breast Cancer in Eastern Nigeria: A 12 Year Review

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## SUMMARY

**Background:** There is at present a high interest in breast cancer but there is still lack of adequate knowledge on male breast cancer. There is no prospective study on male breast cancer, in our environment.

**Objective:** To determine the epidemiology, pathological types, clinical features, management and outcome of male breast cancer in Eastern Nigeria

**Materials and methods:** Records of all patients with breast cancer, that attended University of Nigeria Teaching Hospital (U.N.T.H.) Enugu, a major referral centre in South Eastern Nigeria from 1995 to 2006 were pooled from the medical record. The number of female and male breast cancer patients were noted. Other relevant facts like age at presentation, duration of illness before presentation, mean age at presentation, pathological types, stage at presentation, treatment received and follow up care were also obtained.

**Results:** Out of 1313 cases of breast cancer that presented over the period, 26 were males giving male percentage to be 2%. The peak incidence of occurrence was between 60-69 years with a mean of 60.5 years. The age range of the patients were 25 to 84 years. Invasive ductal carcinoma accounted for 65% of the cases managed. 58% of the cases presented at stage III. Eleven of the patients were followed up for 5 years, only 1 was alive, giving 5 year survival of 9.1%.

**Conclusion:** Male breast cancer cases contributes to 2% of all breast cancer cases seen at U.N.T.H., Enugu, a major referral centre in Eastern Nigeria. Most of the patients presented late making outcome to be poor. There is need for increased public awareness of this disease.

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**Key words:** Male breast cancer, invasive ductal carcinoma, lobular carcinoma.

## INTRODUCTION

Breast cancer is now the most common female malignancy world-wide with up to a million cases annually<sup>1,2</sup>. Male breast cancer in its own part is rare but have been found in higher

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proportion in black Africans<sup>3</sup>. It comprises about 1% of all breast cancers seen in America<sup>4</sup>. But is found to be also on the rise with the also increasing incidence of female breast cancer<sup>4</sup>.

The presentation, investigation and treatment of male breast cancer are similar to that of females with breast cancer.<sup>5</sup> The incidence of male breast cancer is reportedly higher in sub-saharan African where the proportion of male breast cancer sometimes approaches, 15% of breast cancer cases.<sup>6,7</sup> In this study, we reviewed cases of breast cancer that was managed in University of Nigeria Teaching Hospital, Enugu, a major referral tertiary centre for all the states in South Eastern Nigeria from 1995 to 2006, a twelve year period.

## METHOD

The record of all patients with breast cancer that were managed in University of Nigeria Teaching Hospital for breast cancer from 1995 to 2006 were obtained from the surgical out patient clinic, pathology department, and male surgical wards. The case notes were retrieved from the records department. Data retrieved from the case notes included sex, age, presenting complaint, time interval before presenting, description of local disease and distant disease at presentation, histological type, treatment received, first day of presentation and the follow up. The result obtained was analysed using SPSS version 15. The result was later discussed and recommendations made.

## RESULTS

Out of 1313 cases of breast cancer cases that presented over the period, 2% were males. This gave an average of 2 per year. The age range of the patients were 25-84 years. The peak incidence of occurrence was between 60 – 69 years with a mean of 60.5 years (Figure 1). Of the twenty six cases managed, fourteen (54%) affected the left breast and twelve(46%) the right breast. Twenty two of the cases (84.6%) started as breast lump, three(11.5%) as monoductal bloody discharge from the nipple and one(3.8%) as ulceration from the breast. Only 8.3% of the patients presented within 6 months of noticing the abnormality.

The stages at presentation were as follows: fifteen (57.7%) cases presented with stage III disease, six (23.1%) presented with stage II disease, stage IV and stage I, accounted for four (15.4%) and one (3.8%) of the cases respectively (Figure 2). Invasive ductal carcinoma was the commonest histological type accounting for seventeen (65.3%) of cases managed. Adenocarcinoma and mucinous carcinoma accounted to one case each, while lobular and squamous carcinoma accounted

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for two cases each, undifferentiated accounted for three cases (Figure 3). All the patients had mastectomy, adjuvant chemotherapy, radiotherapy and hormonal therapy with tamoxifen. Eleven (42.3%) of the patients were followed up for five years, while the rest were lost to follow up, 10 patients died while on treatment for the disease, one was alive for five years giving survival rate to be 9.1%.

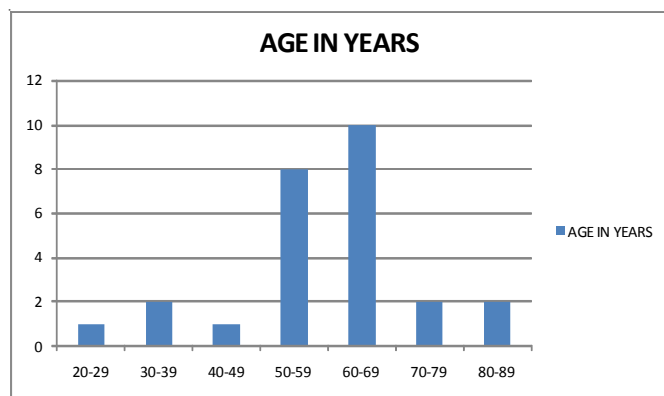


Figure 1: The Age range of the patients.

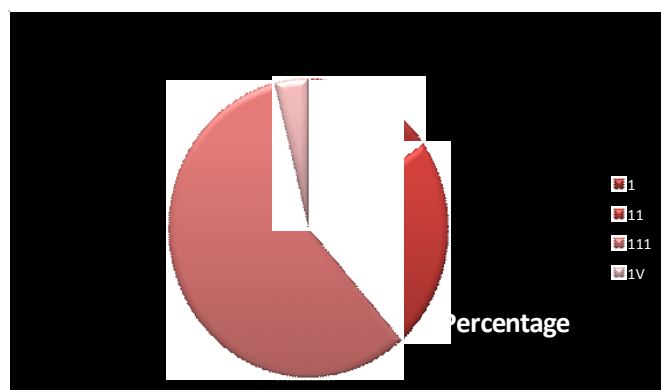


Figure 2: Stages of Male Breast Cancer at Presentation

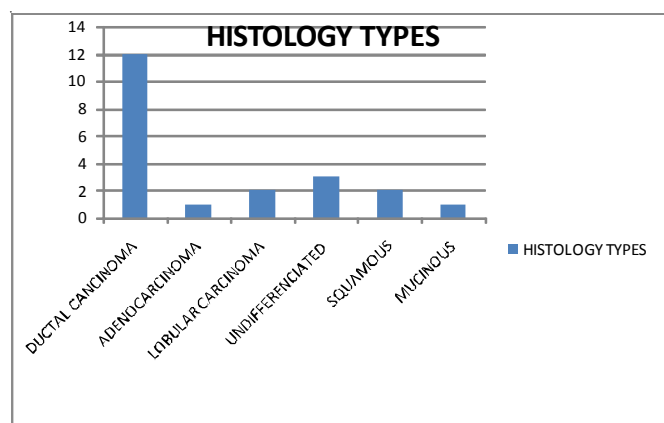


Figure 3: Histological Types of Breast Cancer

## DISCUSSION

The age range of the patients were 25 to 84 years and this compared favourably with the result obtained by Kidma, Ugwu and et al at Jos<sup>8</sup> which was 12 to 85 years. Male breast cancer rate was 2% and this compared favourably with 2.5% obtained in Benin<sup>9</sup> and 1.47% obtained in Nnewi<sup>10</sup>. The result is different from results obtained in Jos<sup>8</sup> and Zaria<sup>11</sup> that recorded 8.6% and 9% respectively. Also different from results obtained in Tanzania and Zambia which are 6% and 15% respectively<sup>12, 13</sup>. The reported higher incidence of male breast cancer compared to Western countries have been attributed to hyperestrogenism due to endemic liver infections in Africa<sup>14</sup>.

The definite aetiology of male breast cancer is unknown just like other cancers. Factors such as alteration of hormonal milieu, family history and genetic alterations are known to affect its occurrence. Various studies have shown that conditions that alter the estrogen- testosterone ratio in males predispose to breast cancer.<sup>15,16</sup> Among these conditions, the strongest association is with Klinefelter' syndrome. Males with this condition have a fifty times increased risk and account for 3% of all breast cancers.<sup>17</sup> Conditions which are associated with increased estrogen levels like cirrhosis<sup>18,19</sup> and exogenous administration of estrogen[ either in transsexuals or as therapy for prostate cancer] have been implicated as causative factors.<sup>20-23</sup> Also androgen deficiency due to testicular disease like mumps, undescended testis, or testicular atrophy, has been linked to the occurrence of breast cancer in men.<sup>24,25</sup> Occupational exposure to heat and electromagnetic radiation, causing testicular damage and further leading to the development of male breast cancer have been postulated,<sup>26,27</sup>

Hereditary breast cancer are known to occur in males. Genetic studies have found that germline mutations in BRCA 2 account for most of this.<sup>28</sup> No link between BRCA1 and familial breast cancer has been noticed in one study<sup>29</sup>, whereas other studies have suggested a possible link<sup>30</sup>. Gynaecomastia has also been implicated as a risk factor.<sup>31</sup> Obesity may increase the risk, while dietary factors, physical activity, and socio-economic status deserve further investigation.<sup>32</sup> The peak incidence of occurrence was between 60 – 69 years with a mean of 60.5 years. This report is comparable to other results obtained in Zaria, Nigeria<sup>10</sup> with a mean of 64, and 66.7 years obtained by Pere Cullel in Spain<sup>12</sup>. Kaiyumar contractor in his review of world literature also found average age of diagnosis to be 60<sup>33</sup>, very similar to what we obtained. He also found the frequency distribution of male disease to have unimodal peak unlike female breast cancer with bimodal peak at 50 and 70 years in Europe. This also different from female breast cancer in Africa which is known to affect mainly premenstrual women.

Twenty two of the cases (84.6%) presented with mass on the breast, like the study by Peter C. Willsher in United Kingdom where 88% presented with lumps<sup>34</sup> and study by Genari where 75% - 96% men presented with hard eccentric mass<sup>35</sup>. Most of the patients presented late, 57.7% at stage III and 15.4% stage IV accounting for the known poor prognosis of male breast cancer patients. This compares to result obtained in Benin<sup>7</sup>. And worse than already late presentation in female breast cancer

obtained by Anyanwu<sup>10</sup> at Nnewi. It is known that because of the small size of the male breast, there is early invasion of skin and the pectoral fascia and distant metastases occur early. In addition, it has been demonstrated that men have more advanced disease at presentation compared to women. For example, men present with higher stage disease, larger tumours, and more frequent lymph node involvement. This may reflect lack of public awareness of breast carcinoma in men and subsequent delays in diagnosis, and there are no recommendations for self breast examination or clinical breast examination in the asymptomatic males. More importantly, there is little public education regarding the existence of male breast carcinoma. When compared with equally matched female breast cancer cases, in terms of prognostic factors, the prognosis appears to be the same<sup>15</sup>.

Invasive ductal carcinoma is the commonest type, accounting for 65.3% of cases, this is similar to what was obtained by A Akosa in Ghana<sup>1</sup> and other similar studies in Africa and Europe. It is also the commonest pathological type of female breast cancer in Africa<sup>9</sup>. Since the lobular system is not well developed in men, lobular carcinoma is uncommon<sup>36</sup>. Medullary, tubular, small cell and mucinous carcinoma have been reported to constitute 15% of cases<sup>37</sup>. Rare tumour like inflammatory carcinoma, have been described<sup>38,39</sup>, metastases to breast from tumour of prostate and lung are known<sup>40,41</sup>. We did not record any of these rare tumours or metastases from distant sites in our series.

## CONCLUSION

The incidence of male breast cancer is higher in sub-sahara Africa than in Western world. Most patients seen in Africa present late making prognosis of the disease to be poor. There is need to increase people awareness that breast cancer also exists in males and that early diagnosis and treatment can improve the prognosis.

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