

ORIGINAL RESEARCH ARTICLE

Histopathological Types of Breast Cancer in Gombe, North Eastern Nigeria: A Seven-Year Review

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Abstract

This was a retrospective analysis of all consecutive breast cancer specimens submitted to the Pathology Department Of Federal Medical Centre, Gombe which renders histopathology services to four states in the North Eastern region of Nigeria. A total of 172 cases of malignant breast tumours were recorded during the 7 years under review. Out of the 172 cases of breast cancers analysed, 7(4%) were in males while the remaining 165(96%) were in females giving a male: female ratio of 1:24. The most common histopathological type of breast cancer found in this study was Invasive Ductal Carcinoma no special type (NST) accounting for 78.8% of cases (*Afr J Reprod Health 2011; 15[1]: 107-109*).

Résumé

Type histopathologique du cancer du sein à Gombe, nord-est du Nigéria : Révision des résultats couvrant sept ans. Il s'agit d'une analyse rétrospective de tous les échantillons du cancer du sein qui ont été remis au Département de la Pathologie de Federal Medical Centre, Gombe, rend des services de pathologie à quatre états de la région nord-est du Nigéria. On a enregistré au total 172 cas de la tumeur du sein maligne au cours des sept ans de la révision. Sur les 172 cas de cancer du sein qui ont été analysés, 7 (4%) étaient des mâles alors que le reste 165 (96%) étaient des femelles, ce qui signifie un rapport mâle : femelle de 1 :24. Le type histopathologique de cancer du sein identifié dans cette étude était le cancer invasif, pas de type particulier (PTP), ce qui représente 78,8% des cas (*Afr J Reprod Health 2011; 15[1]: 107-109*).

Keywords: Breast cancer; Histopathology; Northeastern Nigeria

Introduction

Breast cancer is a leading cause of mortality and morbidity among women worldwide with few cases being reported in men.^{1, 2} It is estimated that one out of every eight American women is at risk of developing breast cancer in her lifetime.³

Developing countries like Nigeria have over the years enjoyed a reportedly low incidence of breast cancer; this picture is however changing due to adoption of a western lifestyle and better health seeking behavior of the populace.⁴

The high mortality associated with breast cancer is linked to the aggressiveness of the tumor which depends to a large extent on the histopathological subtypes. Several studies have pointed out the aggressiveness of breast cancer in African women and some reports have attributed this to the genetic composition of the tumor and the histopathologic types.^{2, 4-6} Reports have shown that African patients tend to develop breast cancer a decade earlier than their Caucasian counterparts.⁷ Many studies have tried to identify prognostic factors for breast

cancer with nodal status and histopathologic subtypes featuring prominently as prognostic indices.⁸

Majority of the reports of breast cancer from Nigeria are epidemiological and most of them are characterised by late presentation.⁷ Only few reports have considered histopathological subtypes and to the best of our knowledge there have been no such reports from north eastern Nigeria.

We are therefore conducting this research with the aim of identifying the most common histopathologic types of breast cancer in North Eastern Nigeria as it compares with other parts of the country.

Methods

This was a retrospective analysis of all consecutive breast cancer specimen submitted to the pathology department of Federal Medical Centre Gombe which renders histopathology services to four states in the North Eastern region of Nigeria. All records of patients with the diagnosis of breast cancer were retrieved from the pathology registers and request forms. Information such as age, sex and laterality were retrieved from the request

forms under the study period January 2000 to December 2007. Cases with incomplete data entries were invalidated. In cases of missing or broken archival slides fresh sections were cut from blocks and stained with Haematoxylin and Eosin and read again. Breast cancers were typed using the recent histopathological typing of breast tumour.⁹ The data were analysed for simple means and percentages using EPI Info 2002 version 3.5.1.

Results

A total of 172 cases of malignant breast tumours were recorded during the 7 years under review. Out of the 172 cases of breast cancers analysed, 7(4%) were in males while the remaining 165(96%) were in females giving a male: female ratio of 1:24 see Table 1. The age range of female patients included in the study was between 21 years and 80 years with a mean age of 43.9 ± 11.5 years. The age range for male patients was between 41-60 years, mean age of 52.8 ± 6.7 years. Most of the female patients (46%) were within the 3rd and 4th decade (21-40) years. This is followed closely by those within the age range 41-60 years. Table 2 shows histopathological types of breast cancers in female with invasive ductal carcinoma (no special type) constituting the majority of breast cancers (78.8%) while malignant phylloides was the least common representing 1.8%. Invasive lobular carcinoma ranked second (6.7%), closely followed by papillary carcinoma accounting for 4.2%. The distribution of these types according to age group are provided in Table 3. Under the special types of malignant breast carcinoma papillary carcinoma ranked first with 7 cases recorded in our series, followed closely by 6 cases of medullary carcinoma and 4 cases of mucinous carcinoma. No cases of ductal and lobular carcinoma in situ were recorded. All the recorded male breast carcinomas in our series were invasive ductal carcinoma. Breast carcinomas were observed to occur more on the right breast than the left breast with the right breast accounting for 71.1% and the left 28.3%. Only a single case (0.6%) occurred bilaterally.

Discussion

The most common histopathological type of breast cancer found in this study was invasive ductal carcinoma no special type (NST) accounting for 78.8% of cases. This agrees with the work of Ekanem et al of 75.5% in Benin.⁴ Abudu et al from Ibadan reported a slightly higher figure of 94%.¹⁰ These suggest that the predominant

Table 1: Age and sex distribution of breast cancers

Age (yrs)	Female	Male	Total (%)
21-40	79	0	79 (46)
41-60	72	7	79 (46)
61-80	14	0	14 (8)
<i>Total</i>	<i>165</i>	<i>7</i>	<i>172 (100)</i>

Table 2: Histologic sub-types of malignant female breast tumour

Types	No	Percent
INSITU CARCINOMA		
Lobular Carcinoma Insitu	0	0
Ductal Carcinoma Insitu	0	0
INVASIVE CARCINOMA		
Invasive Lobular Carcinoma	11	6.7
Invasive Ductal Carcinoma	130	78.8
SPECIAL TYPES		
Papillary Carcinoma	7	4.2
Medullary Carcinoma	6	3.6
Mucinous Carcinoma	4	2.4
MISCELLANEOUS		
Anaplastic Cancer	4	2.4
Malignant Phylloides Tumour	3	1.8
<i>Total</i>	<i>165</i>	<i>100</i>

Table 3: Histopathological types of breast cancers according to age group

Types	21-40 yr	41-60 yr	61-80 yr
INSITU CARCINOMA			
Lobular Carcinoma Insitu	0	0	0
Ductal Carcinoma Insitu	0	0	0
INVASIVE CARCINOMA			
Invasive Lobular Carcinoma	77	52	8
Invasive Ductal Carcinoma	2	4	5
SPECIAL TYPES			
Papillary Carcinoma	0	7	0
Medullary Carcinoma	2	4	0
Mucinous Carcinoma	0	3	1
MISCELLANEOUS			
Anaplastic Cancer	3	1	0
Malignant Phylloides Tumour	0	3	0

histopathological type of breast cancer in Nigeria is the invasive ductal carcinoma NST and may explain the aggressive biological behavior of breast carcinoma found in Nigerian women as reported by other researchers.¹¹⁻¹³ It is lamentable that there was no case of carcinoma in situ in this study perhaps because of paucity of dedicated screening programmes for breast cancers.^{14,15}

The mean age at diagnosis of breast cancer in females in this study was 44 years and agrees with the findings by researchers in other parts of Nigeria.^{16,17} It is noteworthy that the mean age at presentation is a decade earlier than Caucasian series³ and this may be a subject for further research. About half of the female patients in this study were aged 20-40 years at presentation and agrees with the work by Aghadiuno et al from Ibadan¹⁸ and captures the fact that this cancer affects women at their young productive ages.¹⁹ This is in contrast with the male breast cancer in this series which tends to occur a decade later.^{20,21} The least common histopathologic type in our series is the phylloides tumour accounting for 1.8% of cases. This is in contrast with other studies

which showed medullary carcinoma as the least common.¹ This is understandable since our study considered all breast cancers rather than breast carcinoma alone.

Majority of the cancers occurred in the right breast and this agrees with the finding by Adeniji et al and disagrees with that of Ekanem et al. These differences have been reported by different researchers and may not have any pathological significance.

The design of this study being retrospective and the lack of histochemical techniques did not allow for the further typing of anaplastic tumours at the time of this study. A prospective multi-centered study is therefore advocated to better categorize breast cancers in Nigeria.

Conclusion

Invasive ductal carcinoma (NST) was the most common breast cancer in our study and this agrees with what is found in other parts of the country.

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