

Histopathological Types of Breast Cancer in Nigerian Women: A 12-Year Review (1993-2004)

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ABSTRACT

To determine the commonest histological types of breast cancer in Nigerian women in Edo State and the mean age at diagnosis, we reviewed the histological slides of breast cancer received in the pathology department of University of Benin Teaching Hospital over a twelve-year period (January 1993- December 2004). The clinical data was obtained from the original request form and case notes where necessary. The mean age of the patients was 45.7 (SD= 13.4, SEM = 0.7). Invasive ductal carcinoma (not otherwise specified) constituted the majority of breast cancer accounting for 75.5% while papillary carcinoma was the least common (2.7%). Ductal carcinoma in situ accounted for 6.6%. Breast cancer occur more on the left (53.3%) than the right (45.7%). Bilateral breast cancer was found in only 0.8% of the cases. The frequency of invasive breast cancer is still very high among Nigerian women. Late presentation possibly due to ignorance, alternative medicine and fear of surgery may account for this high prevalence. (*Afr J Reprod Health* 2006; 10[1]:71-75)

RÉSUMÉ

Types histopathologiques du cancer du sein chez les femmes nigérianes: Compte-rendu couvrant 12 ans (1993 – 2004) Afin de déterminer les types histopathologiques du cancer du sein les plus communes chez les femmes d'origine de l'état d'Edo et l'âge moyen au moment du diagnostic, nous avons passé de revue les diapositives du cancer du sein reçues dans le Département de la pathologie du Centre Hospitalier Universitaire de Benin au cours de douze ans (janvier 1993 - décembre 2004). Les données cliniques ont été recueillies à partir du formulaire de demande original et les dossiers lorsque c'était nécessaire. L'âge moyen des patientes était 45,7 (SD = 13,4, SEM = 0,7). Le cancer invasif (autrement non-spécifié) constituait la majorité des cancers du sein étant responsable de 75,5%, alors que le carcinome papillaire était le moins commun (2,7%). Le cancer in situ était responsable de 6,6%. Le cancer du sein se manifeste plus à gauche (53,3%) qu'à droite (45,7%). Le cancer du sein bilatéral était découvert dans 0,8% des cas. La fréquence du cancer invasif est encore élevée chez les femmes nigérianes. La fait de ne pas signaler à temps, dû probablement à l'ignorance, à la médecine alternative et à la crainte de l'intervention chirurgicale peuvent être responsable de cette haute prévalence. (*Rev Afr Santé Reprod* 2006; 10[1]:71-75)

KEY WORDS: *Breast cancer, Ductal carcinoma*

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Introduction

By far the most important disease of the breast is carcinoma which usually present as a palpable lump. Other lesions which produce palpable lumpy lesions are only of importance because they raise the suspicion of carcinoma, thus requiring investigation.

Breast cancer is one of the commonest malignant tumours in the world and is one of the leading causes of death due to cancer in women¹. The incidence of breast cancer from different parts of the world varies widely. Breast cancer is the most common cancer world wide with incidence rate ranging from 27/100,000 in Asian women to 97/100,000 among United States white women². In the United States the incidence rates are 20-40% higher in white American women than in non-white women³. A comparison of the Nigerian figure with that of Finland also show breast cancer occurring a decade earlier in Nigerians⁴. In a study conducted in eastern part of Nigeria breast cancer was found to occur in 45% of patients aged 40 years and below⁵.

Breast cancer is commoner in female than male. In Nigeria there is a regional variation in the incidence of male cancer. The study conducted in Ibadan, Western Nigeria showed the incidence to be 3.4% of all mammary carcinomas⁶ whereas in Enugu, Eastern Nigeria the incidence rate was found to be 8%⁷. These two figures are, however, higher than the Caucasian value of 1-2%⁸.

Most Nigerian women present with advance stages of breast cancer, at which time there would have been metastasis. A 5-year survival rate of 8.7% was reported among Nigerians⁹. Basically, this low survival rate was said to be mostly due late presentation and fear of surgery.

Carcinoma of the breast arises from the lining epithelium of the duct system. It may remain within the duct for a variable length of time before invading the surrounding stroma or may spread without invading from the in-situ position.

Most of the studies on breast cancer in our environment is on prevalence. To the best of our knowledge, there are few reported works on histological types of breast in Nigeria. This paper therefore presents the study of the pathological findings in breast cancer specimen of Nigerian women in Benin City, Edo State. The aim is to identify the commonest histopathological types of breast cancer in relation to other types in University of Benin Teaching Hospital and compare it to what is obtainable in other places.

Materials and Method

The study covers all histologically diagnosed carcinoma of the breast over a 12-year period in the department of Pathology University of Benin Teaching Hospital (January 1993 - December 2004).

Information on age, sex and clinical findings were obtained from the original request forms sent with the specimen to the department. All original slides were reviewed using conventional light microscope and where the slides had undergone photo-fading or could not be traced fresh sections were made from paraffin embedded tissue blocks and reviewed. All sections were stained with Haematoxylin and Eosin. All benign breast lesions were excluded from this study. Breast cancers were typed using the recent histological typing of breast tumour¹⁰.

Results

Within the period of this study we received a total of 1473 breast specimens out of which 416 (28.2%) were cancerous. Thirteen out of the 416 cancers were not included in the study, due to inadequate information. Of the 403 cancers of the breast analysed, 7(2%) were from male breast while the remaining were gotten from the female (*Table 1*). The age range for female patients was from 21 to 95 years with a mean age of 45.7 (SD= 13.4, SEM = 0.7) whereas the age range for the male patients was 38 to 77 years with a

mean of 57.1 (SD = 15.4, SEM = 5.9). Breast cancer in females occurred most commonly in the age range of 31 to 40 years (30%). This was followed closely by those in the age range of 41 to 50 years (28.8%).

Table 2 shows the histological types of breast cancer in relation to the side of the breast involved. Invasive ductal carcinoma (not otherwise specified) constituted the majority of breast cancer accounting for 75.5% in female. The combination of intraductal carcinoma and invasive ductal carcinoma accounted for a total of 82.1%. Papillary carcinoma (2.8%) was the least common. Medullary carcinoma accounted for 6.3%, lobular carcinoma 4.7%, mucinous carcinoma 3.3%, papillary carcinoma 2.8% while only 3(0.8%) were poorly differentiated. Breast carcinoma was observed to occur more on the left than the right breast with the left breast

accounting for 53.5% and the right 45.7%. Only 3 (0.8%) cases occurred bilaterally. However, apart from ductal carcinoma (invasive and intraductal) which tend to occur more on the left breast (42.4% and 4.3%) than the right breast (32.6% and 2.3%) other histological types were found more on the right breast with medullary carcinoma, 17(4.3%) being most preponderant.

Discussion

Carcinoma of the breast is among the commonest human cancer world wide. It has received a very wide publicity especially in the western society where much study into its origin, diagnostic method and treatment has been done, thus explaining the low incidence of advance cases of carcinoma in such area.

In this study, 28.2% of all breast specimens received consisted of carcinoma. This rate is

Table 1: Age and sex distribution of breast cancer

Age group (yr.)	Male	Female	Total
21-30	36	36 (8.9%)	
31-40	1	119	120 (30%)
41-50	1	115	116 (28.8%)
51-60	1	63	64 (16%)
61-70	2	44	46 (11.4%)
71-80	2	8	10 (2.5%)
81-90	8	8 (2%)	
91-100	1	1 (0.2%)	
Total	7	396	403 (100%)

Table 2: Left- and Right- sided distribution of female breast cancer in relation to histological types.

Histological types	Left	Right	Right and Left	Total
Ductal carcinoma Insitu	17 (4.3%)	9 (2.3%)		26 (6.6%)
Invasive Ductal carcinoma (NOS)	168 (42.4%)	129 (32.6%)	2 (0.5%)	299 (75.5%)
Lobular carcinoma	11 (2.8%)	7 (1.7%)	1 (0.3%)	19 (4.7%)
Medullary carcinoma	8 (2.0%)	17 (4.3%)		25 (6.3%)
Mucinous carcinoma	4 (1%)	9 (2.3%)		13 (3.3%)
Papillary carcinoma	3 (0.8%)	8 (2.0%)		11 (2.8%)
Poorly differentiated carcinoma	1 (0.3%)	2 (0.5%)		3 (0.8%)
Total	212 (53.5%)	181 (45.7%)	3 (0.8%)	396 (100%)

slightly higher than 26.6% reported by Otu, *et. al* in Calabar¹¹ and 21% by Oluwole, *et. al.* in Ife¹² but is close to 31.8% as reported by Adeniji in Ilorin¹³. On the average it represents the prevalence of breast cancer in southern part of Nigeria.

The mean age of diagnosis of breast cancer in females in our series was 45.7 years. This age compares favourably with the mean age in other parts of Nigeria. In Calabar, South – South Nigeria the mean age was found to be 42.7¹⁴ whereas in eastern Nigeria, the mean age was 44 years¹⁵. However, the incidence of breast cancer in female has been widely reported to occur a decade earlier in blacks than white^{4,16}. In our study, breast cancer occurred most commonly in age range of between 31 to 40 years, followed by the age range of 41 to 50 years. It is possible that breast cancer is equally high among the elderly; its occurrence in the younger age group in this study may be based on the fact that in our society younger people are more educated, earn more money and are more likely to go to hospitals than older people. Above all, younger people are becoming aware of the deficiencies of alternative medicine practitioners.

A study by Page, *et. al.* shows that breast cancer usually start as an intraductal component and require a long time before onset of invasion¹⁷. In comparison, we observed a wide difference between intraductal carcinoma (6.6%) and invasive carcinoma (75.5%) in this study showing that majority of the breast cancer presented late. This late presentation is possibly due to lack of adequate information on the importance of early detection and treatment of breast carcinoma. Also most of the patient would prefer to wait till the onset of symptoms. Some of the reasons given for the late presentation are fear of mastectomy, preference for prayer houses or spiritual healing homes, native medication and economic reasons¹⁸. A survey conducted in Lagos showed that only 30% of nurses had clinical breast examination in 3 years¹⁹. In our centre, there is absence of organised breast cancer screening programme and

mammography. This also contributes to the late presentation of patients in this environment and the high preponderance of invasive carcinoma.

In our study, breast carcinoma was found to occur more in the left breast (53.3%) than the right (46%). Only 3 (0.8%) of carcinomas were bilateral. It is possible that there is no clear cut reason for the preference of left breast to the right because other studies have shown breast cancer occurring more frequently in the right breast than the left¹³.

In this study, the commonest histological type of breast cancer in women was invasive ductal carcinoma (76%) and this was followed by the intraductal type (6.5%). The wide difference between invasive ductal and intraductal carcinoma signifies late presentation to the hospital for surgery. In order to reduce the late presentation of breast cancer the importance of early diagnosis should be emphasised through adequate information dissemination. This information is poor even among health workers in Nigeria. There is therefore need for the establishment of standard breast cancer screening programme including installation of mammographic machine in many hospitals.

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