

Breast Lumps: A 21-Year Single-Center Clinical and Histological Analysis

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ABSTRACT

Objective: To review the presentation and histological diagnosis of breast lumps of patients seen in Trans Ekulu Hospital Enugu Southeastern Nigeria from 1993 to 2013 in a period of 21 years. **Materials and Methods:** This is a retrospective study covering a period of 21 years. Case notes of patients containing clinical information and their histology reports were studied. **Results:** Only 38% of the patients came within 3 months of finding lumps in their breast. One hundred and thirty-seven patients (83%) had benign disease, i.e., fibroadenoma, mammary dysplasia, cysts, adenomas, tuberculosis, phyllodes tumor, mastitis, and lipoma. Only 16.9% i.e., 28 patients had breast cancer, out of which two females were in their 20s, and three were males. **Conclusions:** Benign breast diseases, i.e., fibroadenoma, fibroadenosis, cysts, adenomas, tuberculosis, phyllodes, mastitis, and lipoma are the commoner breast diseases in our locality.

KEYWORDS: Breast lumps, biopsy, Enugu, single centre, Southeastern Nigeria

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as well as recognize the pattern of occurrence of these disorders in their geographical locality. This study, therefore, reviews the histological diagnosis of breast lumps of patients seen in Trans Ekulu Hospital, Enugu, Southeastern Nigeria from 1993 to 2013, a period of 21 years. It is also believed that the result of this analysis will further improve experience in advising patients about the correct attitude toward breast lumps in both sexes and all ages.

INTRODUCTION

Patients complaining of breast disorders form a large proportion of outpatients in general surgical clinics. The presence of a lump in the breast is a great cause of anxiety and apprehension in females, young and old. Public awareness of breast cancer has contributed largely to this, and the consequence is a steady flow of frightened females attending surgical outpatient clinics, with complaints of breast disorders.^[1] Many of them have cyclical mastalgia, nodularity, or asymmetry, but a small proportion will indeed present with breast lumps.^[1] Of these lumps, the most important diagnosis is cancer of the breast.

The usual management of a dominant breast mass is based on the assumption that the mass is cancerous until proven otherwise.^[2] While most reports indicate that breast lumps are predominantly benign and mostly nonproliferative epithelial lesions, there has, however, been an increasing recognition of the risk of developing cancer from the various forms of premalignant lesions, especially atypical ductal and atypical lobular hyperplasia.^[3-5]

It is, therefore, important for surgeons to recognize and distinguish benign and premalignant lesions from breast cancer through biopsy,

MATERIALS AND METHODS

This is a retrospective study of all patients with breast lumps seen in Trans Ekulu hospital Enugu, Southeastern Nigeria between February 1993 and May 2013. Only one surgeon attended to the patients. The records showed that the patients had been clerked, and symptoms recorded were the presence of a lump or mass, pain, and nipple discharge. They were examined in the clinic, before being scheduled for either excision or incisional biopsy, depending on the size of the lump. Most of the biopsies were done using 1% plain lignocaine infiltrated locally. However, a few large breast lumps required general anesthesia for biopsy, as well as drains to avoid postoperative hematoma. The specimens collected were sent to the histopathology laboratory in formal saline, for histological analyzes and diagnosis.

RESULTS

During the 21-year period, a total of 165 patients aged 11-78 years who presented with breast lumps or masses underwent open biopsy. Seven patients were males. Only two patients complained of breast pain and another two had nipple discharge. Seventy-one

patients had right breast lumps, while the left breast was involved in 75 cases and bilateral breast masses were seen in 19 patients. One hundred and fifty-five patients had their operative procedure under local anesthesia, while 10 patients had their biopsy under general anesthesia. The histological diagnosis showed that 137 patients (83%) had benign disease while 28 had malignant tumors [Table 1]. Whereas fibroadenoma was the commonest benign tumor encountered, adenomas, and phyllodes tumors were uncommon [Table 2]. The ages of patients with fibroadenoma ranged from 11 to 46 years with a mean of 26 years. Mammary dysplasia accounted for 32% of cases, with a mean age of 29.7 years and age range of 17-70 years. Only 10 patients with a mean age of 40.8 years and age range of 15-65 years had cysts. Only 64 patients reported to hospital within 3 months of feeling a lump in their breasts, the rest waited longer, and 11 patients waited for over 1 year before seeking surgical advice. Of the 28 patients that had carcinoma, there were 25 females and 3 males. Of the patients that had carcinoma, nine were below the age of 40 years, and two out of this number were in their early 20s.

DISCUSSION

A disease of the breast is a source of great concern to both patients and surgeons as a significant number can turn out malignant. Patients with a lump, nipple discharge, or mastalgia represent a considerable workload in general surgery.^[6] Fear of breast cancer causes a great increase in the number of patients attending surgical clinics, especially the young.^[7] Even though cancer of the breast is strongly age related, majority of the patients seen in this study were young, under the age

of 40 years [Table 1]. Surgical removal of their breast lumps was performed with minimal morbidity and no mortality. The diagnosis of benign or malignant disease was based on histopathological findings.

The results of biopsies carried out on these patients showed that 137 patients (83%) with a mean age of 26 years had benign breast disease, while 28 patients (16.9%) had malignant disease. This demonstrates that benign mammary lesions occurred more frequently than the malignant ones in our locality. This is unlike the findings of Sidiqqi *et al.*,^[8] where carcinoma of the breast was reported as the most common breast lesion seen in hospital practice, in Pakistan. The figure of 83% recorded in this study for benign mammary lesions is in keeping with the observed figure of 85.1% in Saudi Arabia,^[9] but slightly higher than figures 73% and 68.8% reported in some other Nigerian studies.^[10,11] Even though the percentages of the benign lesions varied in different studies, they were still the commonest lesions. Most of the breast lesions occurred in young patients, especially those aged 21-30 years, [Table 1] and majority were fibroadenomas (39%). With respect to the frequency of occurrence of fibroadenoma, Amrr *et al.*,^[9] in Saudi Arabia, and Oluwole in Nigeria^[12] reported similar results of over 30%, whereas Ellis in England reported a lower frequency of 11%.^[13] This is not unexpected, because fibroadenomas are reported to be more frequent in dark-skinned populations.^[14,15] Genetic factors are not known to alter the risk of fibroadenoma, so the difference may well be due to environmental and social factors.^[16,17] These factors may include consumption of large quantities of vitamin C and cigarette smoking, which were found to be associated with reduced risk for developing fibroadenoma.^[17] The age at menarche, the age at menopause, and hormonal therapy, including oral contraceptives, did not alter the risk of fibroadenoma.^[18,19] Fibroadenomas usually form during menarche, a time when lobular structures are added to the ductal system of the breast. Hyperplastic lobules are sometimes common at that time, and may be regarded as a normal phase of breast development.^[20] Hyperplastic lobules were shown to be histologically identical with fibroadenomas,^[21] which are thought to be hyperplastic lesions associated with aberration of the normal maturation of the breast, rather than true neoplasms.^[20] Mammary dysplasia, in which the breast is lumpy and may be tender, or contain discrete tense, cystic masses, that may fluctuate from time to time, was the second most common breast lesion encountered in this study. It accounted for 32% of our cases, and occurred mainly in young patients with a mean age of 29.7 years; it can, however, occur at any age. Sclerosing adenosis, a variant of mammary dysplasia was seen sparingly. It comprises masses of tiny ductules which are surrounded by dense fibrous tissue, and can be confused with carcinoma, without the benefit of histology. In Benin,^[22] and Ibadan^[23] Nigeria, mammary dysplasia was also the second-most common benign lesion after fibroadenoma, and the mean ages were 30 and 39.5 years, respectively. However, studies in Kano,^[10] Ilesha, also in Nigeria,^[24] Westminster, UK^[13] and Italy^[25] found mammary dysplasia the commonest benign lesion, and the mean ages were 33, 31.6, and 39 years, respectively. This condition is

Table 1: Age distribution of patients with breast lumps

Ages in years	Number	Percentage
11-20	37	22.4
21-30	51	31
31-40	32	19.4
41-50	28	17
51-60	10	6
61-70	5	3
71-80	2	1.2
Total	165	100

Table 2: Distribution of histological types

Histology	Number	Percentage
Fibroadenoma	64	39
Mammary dysplasia	53	32
Carcinoma	28	17
Cyst	10	6
Mastitis	3	1.8
Adenoma	3	1.8
Phyllodes	1	0.6
Tuberculosis	1	0.6
Galactocoele	1	0.6
Lipoma	1	0.6
Total	165	100

believed to be the result of imbalance of ovarian hormones, probably estrogen excess and progesterone deficiency, and usually subsides after menopause. It is thought to be an aberration of normal development and involution.

Cysts were encountered in 10 patients only, with a mean age of 40.8 years, the youngest being 15 years. Breast cysts are generally benign and usually form as a result of the growth of milk glands. Some large cysts feel like lumps. They are most common in premenopausal women in their 30s and 40s. They usually disappear after menopause, but can be found at any age.^[26] Mastitis, adenoma, phyllodes, tuberculosis, and galactocoele, occurred in very few patients. Mammary tuberculosis has been described as a rare modern disease in which diagnosis is rarely made without biopsy, the preoperative impression being carcinoma.^[27] Phyllodes tumors have been described as rare fibroepithelial tumors that account for about 1% of all breast neoplasms.^[28] The only patient who had benign phyllodes was 21 years of age, contrary to reports that this occurs in patients in their 50s.^[29] The finding in this study is in keeping with other reports about phyllodes tumor presenting early in our environment.^[23,30] Phyllodes can occasionally recur after excision, and also has a malignant variety. However, there was no recurrence in this study.

Twenty-eight patients accounting for 16.9% of breast biopsy turned out to be cancerous, with average age of 46.8 years, and majority was invasive ductal carcinoma [Table 3]. Similar findings were recorded in Ghana, where majority of the patients were aged 40-49 years and Ibadan, where the median age was 48.8 years.^[31,23] Two of the patients in this study were aged 21 and 24 years, and the latter had ductal carcinoma *in situ*. In the Ghanaian study, the age range was 24-75 years, and Clegg-Lampsey wrote that cancer of the breast affects a relatively young population in Ghana.^[31] The same finding is the experience in Nigeria.^[23,32] Finally among patients with cancer of the breast there were three males. Male breast cancer is rare, the incidence varies, indeed Nzegwu *et al.*, found no male breast cancer in a study of 1050 breast biopsies, whereas Irabor *et al.*, found only one in a study of 147 breast biopsies.^[32,23] Analysis in a Ghanaian study put the incidence of male breast cancer at 1.3%, while in Jos (Nigeria) it was reported to be as high as 8.6%.^[31,33]

Table 3: Histological types in 28 patients with cancers of the breast

Types of carcinoma	Number	Percentage
Intraductal carcinoma	15	53.6
Medullary carcinoma	3	10.7
Multiform carcinoma	2	7.1
Papillary carcinoma	2	7.1
Undifferentiated carcinoma	2	7.1
Ductal carcinoma <i>in situ</i>	1	3.6
Mucinous carcinoma	2	7.1
Cancer (unspecified type)	1	3.6
Total	28	99.9

In conclusion, this study shows that majority of breast lumps in our locality are benign. The importance of histopathological analysis of lumps cannot be overemphasized, especially by the uncommon findings of breast cancer in two females in their early 20s, and tuberculosis in another.

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