

# An audit of excised breast lumps in Ghanaian women

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## Summary

**Background:** In our environment, all patients presenting with breast masses insist on complete surgical removal as the preferred treatment option acceptable to them. We report on a 6-year prospective study of the clinical and pathological features of these breast masses excised for histopathological examination.

**Study design:** Details of all consecutive women referred to the surgical out-patients' clinic of the Komfo Anokye Teaching Hospital from January 1998 to December 2003 inclusive, for clinical assessment and excision of breast masses were prospectively recorded. Open surgical biopsies were performed on these masses and the pathological features recorded.

**Result:** A total of 443 patients were reported. Approximately 80% of the women were 40 years old or younger. There were 355 (80.9%) benign breast lesions and 88 (19.1%) carcinomas.

The principal histopathological types were fibroadenoma, fibrocystic breast changes and carcinoma occurring in 47.7%, 23.9% and 19.1% of the patients respectively. The cumulative frequency at >30 years for fibroadenoma and carcinoma was 0.81 and 0.11 respectively. No carcinomas were found below 26 years. There was a significant association between the ages of the patients and the type of breast disease ( $X^2 = 20.9$   $P < 0.05$ ).

**Conclusion:** Discrete breast masses in Ghanaian women are mostly due to benign breast disease. The risk of cancer increases with the age of the patient especially after 30 years.

**Key-words:** Excised breast masses, Histopathology, Breast disease patterns

## Résumé

**Introduction:** Dans notre milieu, toutes les patientes qui viennent au cabinet de consultation atteintes des masses du sein insistent sur le fait d'un enlèvement chirurgical complet comme le traitement du choix préféré et acceptable pour elles.

Nous rapportons une étude en perspective d'une durée de six ans des traits cliniques et pathologiques de ces masses des seins excisés pour un examen histopathologique.

**Plan d'étude:** Détails de toutes les femmes consécutives envoyées au service chirurgical des consultations externes de centre hospitalier universitaire de Komfo Anokye de janvier 1998 au décembre 2003, pour une évaluation clinique et excision des masses du sein ont été notées en perspective. Les biopsies chirurgicales ouvertes ont été opérées sur ces masses et des traits pathologiques notés.

**Résultats:** Un nombre total de 443 patients ont été rapportés. Approximativement, 80% des femmes avaient 40 ans ou de moins. Il y avait 355 soit 80.9% lésions bénignes du sein et 88 soit 19,1% carcinome.

Les types histopathologiques capitaux étaient fibroadénome, changement du sein mucoviscidose et carcinome se produit en 47,7%, 23,9% et 19,1% des patientes respectivement. Fréquence cumulative en >30 ans pour fibroadénome et carcinome étaient 0,81 et 0,11 respectivement. Aucun cas de carcinome était trouvé au dessous de 26 ans. Il y a une association importante entre les âges des patientes et le type de maladie du sein ( $X^2 = 20,9$   $P < 0,05$ ).

**Conclusion:** Discrètes masses du sein chez des femmes ghanaises sont principalement attribuables à la maladie bénigne du sein. Le risque des maladies de cancer augmente avec l'âge des patientes en particulier après 30 ans.

## Introduction

There is increasing public awareness of breast diseases and breast cancer in our environment.<sup>1</sup> As a result, many women who become aware or are informed of the presence of a mass in either breast experience great anxiety.<sup>2</sup> This reaction is believed to be related to the fear of and concern for cancer.<sup>2</sup>

Data on breast disease and breast cancer are therefore needed for many useful purposes including patient counselling,<sup>3</sup> screening for the early detection of breast cancer,<sup>3</sup> advocacy for official support for breast health care<sup>4</sup> and breast disease patterns in our populations.

It is now established that early detection and treatment of breast cancer is effective in reducing breast cancer mortality.<sup>3</sup> It is against this background that this study was designed. By taking advantage of the opportunity presented, a study of the clinical and histological features of these excised breast masses is expected to reveal breast disease patterns in our part of Africa.

## Patients and methods

From January 1998 to December 2003 inclusive all patients referred to the surgical specialist for excision biopsy of discrete breast masses provided the material for this study. All relevant demographic details were obtained from each patient and a careful and detail clinical examination performed to confirm the presence of the breast mass. The clinical features of the mass including the presence of pain, nipple discharge, and the status of axillary lymph nodes were recorded.

Excision biopsy of the masses was performed under 1% xylocaine infiltration (401) 90.5% with (42) 9.5% cases requiring general anaesthetic. Usually by 4 weeks the histology report was available.

Patients with breast cancer were counselled and the disease staged using the TNM system. Each patient was started on a treatment schedule according to the stage of the disease.

## Statistical analysis

Numerical data was entered into an IBM compatible P.C. Means, standard deviations, frequencies and other statistics

including graphs, tables and population estimates were computed using the SPSS version 8 statistical soft-ware.

**Results**

**Rate frequency**

The female at risk population for the catchments area of the hospital in the middle of the study was 0.32 million. Based on this, the 443 patients with discrete breast masses represent a rate frequency 21.1 per 100,000 per year.

for 2.5% of the cases.

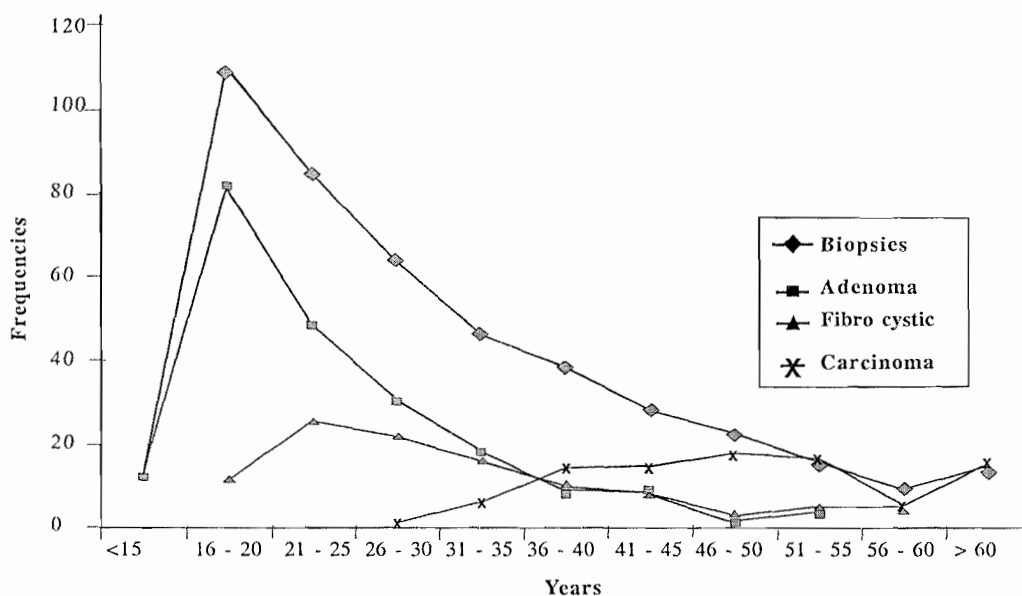
These included lactating adenoma 3,<sup>5-7</sup> chronic abscess 3, apocrine metaplasia 1, duct fibrosis 1 and breast lipoma 2 and xanthogranuloma of the breast 1.

**Age distribution**

Figure 1 shows the age and frequency distribution of all biopsies and for the three principal diagnoses. More than 80% of discrete masses were found in women less than 40 years old. For fibroadenoma the mean age was  $23.9 \pm 7.9$

**Table 1 Histology of excised breast lumps according to age of patient recorded as a percentage of the total number of lumps in each 10-year age group (numbers in parentheses)**

Age group	Fibroadenoma	Fibrocyctic breast changes	Carcinoma	Duct papilloma	Phylliodes tumour	Others	Total number of lumps (%)
11 - 20	81.3 (78)	12.5 (12)	0	0	2.1 (2)	2.0 (4)	96 (21.6)
21 - 30	72.9 (94)	20.2 (26)	0.7 (1)	0	3.8 (5)	2.3 (3)	129 (29.1)
31 - 40	27.9 (26)	39.8 (37)	21.5 (20)	2.1 (2)	3.2 (3)	5.3 (5)	93 (20.9)
41 - 50	13.4 (9)	29.80(20)	41.8 (28)	4.5 (3)	2.9 (2)	7.4 (5)	67 (15.1)
51 - 60	8.6 (3)	20.0 (7)	60.0(21)	2.9(1)	0	4.5 (3)	35 (7.9)
61 - 70	0	12.5 (2)	75.8(12)	16.6(1)	0	0	15 (3.4)
71 - 80	0	33.3 (2)	66.6 (4)	0	0	0	6 (1.3)
80+	0	0	100 (2)	0	0	0	2 (0.5)
Total number of histology types (%)	210 (47.4)	106 (23.9)	88 (19.9)	8 (1.8)	12 (2.7)	19 (4.3)	443



**Fig. 1 Age distribution of discrete breast masses in Ghanaian women**

**Histological types**

Table 1 shows the histological distribution of the 443 breast biopsies. Fibroadenoma, fibrocystic changes and carcinoma were the three main histological types accounting for 47.4% and 23.9% and 19.9% respectively.

A miscellaneous mixture of benign lesions accounted

(S.D.) and for fibrocystic changes, the mean age was  $31.8 \pm 10.9$  (S.D.). The cumulative frequency at > 25 year for fibroadenoma and fibrocystic changes was 0.68, 0.35 respectively. Carcinomas were found in the older patient with a mean age of 50.1 years  $\pm 12.0$  S.D. with a cumulative frequency at >35, >50 and >70 years of 0.08, 0.59 and 0.83% respectively.

There was a strong association between age of patient and type of breast disease with the likelihood of carcinoma increasing with age  $X^2 = 20.9$   $P < 0.05$ .

### Breast cancer

The main histological type was ductal adenocarcinoma 78 invasive and 3 insitu. There were also 5 infiltrating lobular adenocarcinomas. Two patients with bilateral breast masses were reported as having Burkitt's lymphoma. There were 53 cancers (60.2%) in stage I and 32(36.4%) in stage II.

Two patients were found to have pulmonary metastases representing 2.8% of the series as stage IV. There was no stage III or locally advanced-disease cases in these discrete masses.

### Discussion

Most of the patients were young and had benign breast disease. Cancer of the breast was less common and occurred mostly in older women. The pathological types or categories thus varied with the age of the patient. (fig 1, table 1 ) Some previous series have reported similar breast disease patterns<sup>1,8</sup>

The risk of benign breast disease (fibroadenoma, fibrocystic changes and other lesions) so common in young women transforming or predisposing to carcinoma in the later years has been of considerable concern to both surgeons and patients.<sup>9,11</sup> There is much debate and opinion here, however the College of American Pathologist consensus statement and subsequent update provided acceptable guidelines on specific risk for age and pathological changes, and is a useful reference when counselling patients<sup>12</sup>. It is now generally accepted that the over-all risk is low.<sup>13-15</sup>

The over-all incidence of breast diseases in various population groups is not completely documented. The rate frequency of discrete masses in this series was 21.1 per 100,000 per year with 80.1% benign lesions. Series reported from Western Europe have higher over-all frequency rates though the proportion of benign lesions is the same.<sup>8</sup> Higher over-all frequency rates are now being reported from Africa<sup>16</sup> where previous investigators have reported lower rates.<sup>17</sup>

The relative proportions of benign diseases have varied according to the series. In the present and other series 75 – 80% of these masses are benign.<sup>1,8</sup> In a recent report from Nigeria, only 39% of biopsies were benign.<sup>16</sup> These variations may need further investigations.

### Breast cancer

The mean age of the cancer group was 50 years as compared with the fibroadenoma group of 23 years and no cancer was found below 25years. This results is consistent with series published from other populations<sup>18,20</sup>, with advancing age as the most consistent predictor of carcinoma (fig. 1)

The histological types of breast cancer reported in this series were similar to those from previous published data.<sup>21</sup> However, a much larger proportion of the cancers (85%) in this series were operable.

Most previous reports from Ghana and other parts of the developing world have documented more advanced disease (50 – 75%) at presentation.<sup>1,21,22</sup>

The population of referred patients in this series (demanding excision) may be a group exposed to public education with increased awareness of breast cancer risk. These patients may have reported for early treatment. If so that would explain the higher proportion of early stage cancer among them. It is now generally accepted that until a cure is found for breast cancer, mortality from the disease may be reduced by early detection and treatment.<sup>3</sup>

This paper notes that the pattern of breast disease in our environment is not different from that of other populations. Breast cancer is less common in young women.

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