

Original Article

The Pattern of Breast Diseases at Kenyatta National Hospital

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Abstract

OBJECTIVE: To determine the pattern of breast diseases.

DESIGN: Retrospective descriptive study.

SETTING: Kenyatta National Hospital (KNH), a University Teaching and National Referral Hospital.

PATIENTS: One thousand one hundred and seventy two patients records were reviewed.

RESULTS: An average 469 new patients per year or 11 new patients per clinic visit were reviewed over a two and a half year period. Females predominated (98.9%). The mean age of the patients was 34.71 years (range 1 to 96 years). The average age at menarche was 14.49 years and the mean duration of symptoms was 6.86 months. Only 2.6% of 843 patients had a positive family history of breast disease. Fibroadenoma was the commonest diagnosis made (33.2%) followed by ductal carcinoma (19.7%). Gynaecomastia was the most common lesion seen in males. Two thirds of patients presenting with lumps had masses measuring more than 5cm. Overall, five conditions (fibroadenoma, ductal carcinoma, breast abscesses, fibrocystic disease and mastalgia) accounted for over 85% of all breast ailments. Surgery formed the mainstay of care in over 80% of patients.

CONCLUSIONS: The pattern of breast diseases at KNH closely mirrors those reported

in literature. This study indicates that a large proportion of patients presenting with breast diseases are treated initially by surgery. It may be wise to consider other alternative forms of therapy where appropriate.

Introduction

Epidemiological studies reveal wide disparities in the frequency and distribution of breast ailments across the world (1-3). When local breast disease distribution patterns are known, generalizations pertaining to diagnosis and management can be made with a reasonable degree of certainty. In addition, resource allocation and planning can be better managed. This is particularly so in resource poor countries where a large population of individuals may not afford all the forms of diagnostic modalities available.

Breast diseases afflict women more than men, the prevalence rate in males ranging from 0 to 5.8% in most series (1-3). Majority of male breast afflictions are benign with gynaecomastia occupying the top slot (1,2,4). Among females, the distribution of pathology varies widely depending on age and geographical location. Benign lesions predominate at all ages accounting for 48.9% to 57% with a mean age of occurrence being 28.5 years (1,2,6,7). Benign lesion prevalence rates can peak 99% in those younger than 30 years (7). Fibroadenoma is

the most common lesion at prevalence rates between 34.7 to 67% of all breast lesions with a peak mean age incidence of 16-25 years (1-4, 6, 10-13). Malignancy or inflammatory lesions come second in frequency to fibroadenoma (2, 6,11,12). Benign diseases thus, constitute the major work load in any breast clinic, although some studies have shown that malignant conditions predominate (4,6), yet others have found inflammatory lesions to be the most common disease entity (15). This study undertook to examine the pattern of breast pathology presenting at KNH.

Patients and methods

The breast clinic's records and case files of all patients managed for breast diseases between 1st September 2000 to March 31st 2003 were retrospectively reviewed. The KNH breast clinic was set up in 2000 for the purpose of optimizing the care of breast diseases. It is held once a week and run by consultant surgeons and surgical residents in training. All patients seen at the clinic during the study period with a clinically and/or cytologically, histologically, radiologically diagnosed breast ailment were included in the study. Patients who presented with previously treated or recurrent lesions were excluded.

The age, sex, duration of symptom, pathological diagnosis and treatment methods were evaluated for each patient. Also abstracted from the medical records were the age at onset of menarche for female patients, family history of breast disease and the initial method of establishing the diagnosis. The data were analysed to calculate frequencies, means and standard deviations.

Permission to do the study was granted by the Kenyatta National Hospital Research and Ethics Committee.

Results

A total of 1172 new cases were seen at the KNH breast clinic over the two and a half year period, an average of 469 patients per year or 11 new patients per clinic visit. The mean age of these patients was 34.71 years with a range of 1 to 96 years. Table 1 below gives some descriptive demographic characteristics.

Malignant breast lesions accounted for 22% of all breast diseases. The most common malignancy was ductal carcinoma constituting 91.7% of all cancerous breast diseases followed by lobular carcinoma at 2.8% (Table 2a). The majority of patients (78%), had benign conditions, fibroadenoma being the single most common diagnosis made. It accounted for up to 40.2% of benign conditions (Table 2b) and 33.2% of all breast ailments put together. Five disease conditions: fibroadenoma, breast abscess, fibrocystic disease, mastalgia and chronic mastitis accounted for 83.4% of all benign lesions and formed the main work load at the clinic. Out of the 22 patients with chronic mastitis, eight had confirmed tuberculosis of the breast. Males constituted less than 1% in this series and gynaecomastia was the most common lesion seen in this group (Table 3).

Nine hundred and four patients presented with lumps. In two thirds of this group, the lumps measured more than 5cm in their widest diameters. Fine needle aspiration cytology (FNAC) was used in the initial definitive diagnosis in 46.1% of all cases. Excisional and incisional biopsies were utilised for only 8.6 and 3.0% of cases respectively. Patients diagnosed purely on clinical assessment comprised 40.0% (Table 4). Over 80% of patients seen at the KNH breast clinic were operated upon (Table 5).

Table1: Demographic characteristics

Variable	No.	Mean	Median	Sd	Minimum	Maximum
Age (years)	1172	34.71	32	15.829	1	96
Duration (months) of symptoms	920	6.86		13.616	0.1	120
Age at menarche (years)	700	14.49	14	2.447	8	21

Table 2a: Distribution of malignant lesions

Diagnosis	Frequency	(%)
Ductal carcinoma	231	91.7
Lobular carcinoma	7	2.78
Malignant phylloides	6	2.38
Poorly differentiated carcinoma	3	1.19
Primary soft tissue sarcoma	2	0.79
Squamous cell carcinoma	2	0.79
Ductal carcinoma with Pagets	1	0.4
Total	252	100

Table 2b: Distribution of benign breast conditions

Diagnosis	Frequency	(%)
Fibroadenoma	370	40.2
Abscess	173	18.8
Fibrocystic disease	119	12.9
Mastalgia(breast pain)	83	9.02
Mastitis chronic	22	2.39
Duct ectasia	12	1.3
Galactocoele	12	1.3
Gynaecomastia	12	1.3
Tubular adenoma	10	1.1
Lipoma	10	1.1
others	86	9.4
Inconclusive	11	1.2
Total	920	100

Table 3: Distribution of male breast pathology

Diagnosis	frequency	(%)
Gynaecomastia	7	36.8
Ductal carcinoma	4	21.1
Fibroadenoma	3	15.8
Fibrocystic disease	2	10.5
Chronic abscess	1	5.3
Malignant phylloides	1	5.3
Inconclusive	1	5.3
Total	19	100

Table 4: Mode of initial definitive diagnosis (n = 899)

Mode of diagnosis	Frequency	(%)
FNAC	414	46.1
Clinical examination	359	40.0
Excisional biopsy	78	8.6
Incisional biopsy	27	3.0
others	21	2.3
Total	899	100

Table 5: Primary treatment offered initially (n = 1114)

Initial treatment modality offered	Frequency	(%)
Surgery	903	81.1
Reassured	79	7.1
Radiotherapy	55	4.9
Non cancer oral medication	46	4.1
Chemotherapy	27	2.4
Others	4	0.4
Total	1114	100

Discussion

This study reviewed data of 1172 patients seen at the KNH breast clinic over a two and a half year period. The majority, 98.9%, were females which is consistent with the rarity of male breast disease (prevalence ranges from 0 to 5.8%) in most series (1-3). Even then the majority of male breast afflictions are known to be benign, (2,4) as indicated by this study where 73.6% (14 of 19) were benign lesions with gynaecomastia being the commonest diagnosis made. In a retrospective study in Saudi Arabia over a 15-year period (n = 63), Chiedozi et al found that 87% of all male breast lesions were benign (1). The same study revealed that gynaecomastia was the most frequently diagnosed condition in males, 54%, and that only 3% of all breast cancers occurred in the male population.

Overall, fibroadenoma was the single most common diagnosis made followed by ductal carcinoma of the breast. This compares well with other studies where fibroadenoma shows prevalence rates between 34.7 and 67% of all breast lesions and a peak mean age incidence of 16-25 years (1-4,6, 10-13). Five conditions namely fibroadenoma, ductal carcinoma, breast abscesses, fibrocystic disease and breast pain (mastalgia) accounted for over 85% of all breast ailments seen. These five conditions share similar prominence in other studies, only differing in their order of ranking. Two studies, one in Jordan (n = 1000) and the other in Pakistan (n = 3879) found breast cancer to top the list of breast pathologies followed by fibrocystic disease and fibroadenoma in

respective studies (4,6). In Papua New Guinea inflammatory conditions were the most common type of breast lesions with chronic mastitis and abscesses, constituting 32% of all breast diseases and 71% of the mastitides (15). It is imperative that emphasis be placed on the management of these five conditions in both undergraduate and postgraduate training.

Fine needle aspiration cytology (FNAC) was the most commonly used initial pathological diagnostic investigation for breast lumps. This is tandem with worldwide trends (18,19), and the declining role of incisional and excisional biopsy in the initial diagnosis of solid and cystic masses of the breast. FNAC is easy to perform with minimal expertise even in the clinic setting, does not require anaesthesia and is less invasive compared to other methods. However, it requires well trained cytologists in order to reduce false positive or negative results. The correlation between cytology and histology in breast lesions has been studied at KNH and found to be good (16). Forty percent of lesions were diagnosed on the basis of clinical assessment alone. Presumably, breast abscesses, mastalgia and fibroadenomas in a young population, which comprised a large proportion of the current data set, informed the decisions.

Of the patients presenting with lumps, two thirds had masses greater than 5cm. This is consistent with the long duration of symptoms in the current study and the the earlier study that denoted that up to 70% of patients diagnosed with breast cancer have advanced disease at KNH (17). As an initial means of treatment, over 80% of patients seen were operated upon with only 7.1% getting reassurance only. This may seem an excessive initial treatment both for the majority fibroadenomas and the breast malignancies. These two conditions constituted 52.9% of all breast ailments. Most of the work load in any breast clinic is largely considered to be that of reassuring the "worried well", implying that most pathologies encountered are benign, non-life threatening conditions that should be treated conservatively. Fibroadenomas are benign fibroepithelial tumors that grow slowly, are rarely symptomatic, tend to be bilateral and multiple, do not have predilection to malignancy and up to 40% may regress within two years. It is unclear whether the decisions to excise them

in the current study were influenced by their large sizes (giant fibroadenomas), symptoms, sudden change in biology or patient request. For the advanced malignant lesions, the place of neoadjuvant therapy is now advocated. It is possible that this form of initial therapy was neither accessible nor available for the cohort. Further studies to evaluate our breast surgery practice are recommended.

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