MAMMOGRAPHIC TRENDS OF BREAST DISEASES IN ACCRA DURING THE YEAR 2004

EK. Brakohiapa¹, GE. Armah², JNA Clegg-Lamptey³, WO. Brakohiapa⁴

¹. Department of Radiology, University of Ghana of Medical School, Korle-Bu, Accra, Ghana, ². Noguchi Memmorial Institute for Medical Research, University of Ghana, Legon, Accra, Ghana, ³. Department of Surgery, University of Ghana of Medical School, Korle-Bu, Accra, Ghana, ⁴. Radiology Faculty Chairman, Ghana College of Physicians and Surgeons, Accra, Ghana.
Preamble to the Study

• Visiting radiologists often ask two questions:
• 1. What equipment do you have in your department? – at the Korle-Bu Teaching Hospital, answering this question used to make one feel good.
• 2. What cases do you commonly come across in your department? - at the Korle-Bu Teaching Hospital, there is no documented data to answer this question.
Introduction

• Breast disease is a fairly common predicament of many females resulting in a large number of women reporting to hospitals within the Greater Accra Region for management.

• Individuals with breast disease spend most of the time wondering whether there is an underlying cancer.

• This is not only distressing for the patient, but also for the spouse, children, relatives and even friends.
Introduction

• Early evaluation of breast disease with the aim of excluding breast cancer helps to allay fears in people with benign breast disease.

• Most breast lesions referred for imaging are generally benign conditions, and the commonest symptom is that of pain.

Study objectives

• To document the mammographic patterns in females seeking medical attention in the Greater Accra region of Ghana in a bid to generate baseline data for future mammographic studies.
MAMMOGRAPHIC TRENDS

Design
• An analytic retrospective study was conducted using data extracted from mammography request forms and corresponding radiological reports of 180 females.

Setting
• The radiology departments or units of hospitals and clinics in the Greater Accra Region.
Method

• 180 radiologic request forms for mammographic evaluation and their corresponding reports of patients visiting various Radiology Departments in Accra were included in the study.
• Only adequately completed request forms and their corresponding reports were included in the study.
• Information was extracted from the request forms and included patient age, sex, ward or hospital of referral, and clinical history.
• Also extracted for each patient were the significant findings and the radiologic diagnosis.
• All data were coded and entered into a database using the Microsoft Access data base. Data analysis was then carried out using the STATA analysis program.
Results

• The mean age of the study population was 48.71 years (SD=1 0.0), and the median age group was the 41 – 50 group.
• There were more screening examinations than diagnostic studies (115 and 65 respectively).
• Breast cancer incidence peaked between 41 – 50 years.
• Benign lesions were commoner than cancer in females seeking medical attention for breast disease (55 and 16 cases respectively).
• The commonest presenting complaint was of pain.
## Age Distribution

<table>
<thead>
<tr>
<th>AGP</th>
<th>No. of Patients ( % )</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 – 40 years</td>
<td>21 ( 11.7 )</td>
</tr>
<tr>
<td>41 – 50 years</td>
<td>94 ( 52.2 )</td>
</tr>
<tr>
<td>51 – 60 years</td>
<td>44 ( 24.4 )</td>
</tr>
<tr>
<td>61 – 70 years</td>
<td>12 ( 6.6 )</td>
</tr>
<tr>
<td>&gt; 70 years</td>
<td>9 ( 5.0 )</td>
</tr>
<tr>
<td>TOTAL</td>
<td>180</td>
</tr>
</tbody>
</table>
Discussion - Screening vrs Diagnostic mammograms

- The 41 – 50 year age group had the highest number of patients for both the diagnostic and screening studies, with 36 cases (20.0%) and 58 cases (32.2%) respectively. Overall, this age group forms 52.2% of all the cases reviewed. This is also the age group for which early cancer screening is recommended as studies have shown that the onset of breast cancer in West African females occurs with a peak incidence between 35 to 45 years, about ten to fifteen years earlier than in Western Caucasian.

- U. K. screening - 50 years and over, once every 3 years. (Textbook of Radiology and Imaging.)
- U.S. screening - 40 years and over, annually, or once every two years. (The Requisites, Breast Imaging.)
Prognosis CA breast

• About 80% of all treated cases ultimately die from the cancer. Most recurrences and deaths occur within the first 3 years and some cases in the 7th-9th year.

• Others can live as long as 15-20 years.

• After age correction 20% of all cases and 30% of patients with early stages of the carcinoma (nearly 50% of stage 1 and 20% of stage 2) survive 20 years and enjoy normal expectation of life after that period.

• Without treatment, the mean survival age for all patients from time of diagnosis is about 3 years and only 1% are alive at 15 years.

From E. A. BADOE and CO. PRINCIPLES AND PRACTICE OF SURGERY: 3RD EDITION.
## Survival rates in carcinoma of the breast

Survival rates in % (age-corrected rates in brackets)

<table>
<thead>
<tr>
<th></th>
<th>5 years</th>
<th>10 year</th>
<th>15 years</th>
<th>20 years</th>
<th>25 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>No treatment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All stages, mostly</td>
<td>18</td>
<td>4</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>stage 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treated: All stages</td>
<td>41 (46)</td>
<td>24 (30)</td>
<td>17 (24)</td>
<td>12 (21)</td>
<td>9 (19)</td>
</tr>
<tr>
<td>Stage 1</td>
<td>74 (83)</td>
<td>50 (63)</td>
<td>36 (51)</td>
<td>29 (48)</td>
<td>22 (46)</td>
</tr>
<tr>
<td>Stage 2</td>
<td>45 (49)</td>
<td>26 (29)</td>
<td>16 (22)</td>
<td>12 (19)</td>
<td>8 (17)</td>
</tr>
<tr>
<td>Stages 3 &amp; 4</td>
<td>25</td>
<td>13</td>
<td>9</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

Discussion - Impact of educational programs

• Generally there were twice as many screening studies done than were diagnostics studies.

• Awareness campaigns on breast cancer screening appear to be having a positive impact on females in the Greater Accra Region.
Discussion – mammographic lesions

• Most individuals examined mammographically had normal results (61%). This finding is consistent with the study of B. N. Baako which obtained normal results in 61.1% of women examined.
Fig. 2 Frequency of Radiological Diagnosed Lesions vrs Exam Type

Radiologically Diagnosed Lesions

IC = invasive carcinoma, DCIS = ductal carcinoma in situ, PHYLL = phylloides tumour
**Discussion**

- Non-specific, benign-looking breast masses were the commonest lesions encountered, followed by benign-looking lymph nodes, invasive ductal carcinoma, simple breast cysts, fibroadenomas, ductal carcinoma in situ, and phylloides tumour in descending order of frequency.

- This is consistent with two earlier studies conducted at the Pathology and Surgical Departments of the KBTH\(^1, 2\).

Results/ Discussion

• An audit of excised breast lumps in Ghanaian women by Ohene-Yeboah M.O. also supported by the above.

• A study by B. N. Baako conducted in the North and South of Ghana also supports these results, and has the highest number of patients presenting with fibroadenosis, followed by fibroadenomas, breast abscess and carcinoma in descending order.
Discussion

• Sonographic equipment for all mammographic centres for further characterization of non-specific masses is thus highly recommended.
Complementary examinations
Discussion

- Invasive ductal carcinoma was the commonest malignancy, (13 of 180 cases = 18.6% of lesions). Three cases (4.3%) were suggestive of ductal carcinoma in situ (DCIS), thus the total suspected malignant tumours detected in the study was 22.9%.

- Similar results were obtained in a pathologic review of surgical material obtained from breast biopsies and mastectomies in KBTH conducted between 1977 and 1978, where cancers formed 24% of all lesions.

- The age group with the largest number of four invasive ductal carcinomas was the 41-50 year group.
Discussion
Discussion
## Malignant and benign Lesions versus AGP

<table>
<thead>
<tr>
<th>AGP</th>
<th>Malignant ( % )</th>
<th>Benign ( % )</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 – 40 years</td>
<td>0 ( 0.0 )</td>
<td>5 ( 9.0 )</td>
</tr>
<tr>
<td>41 – 50 years</td>
<td>6 ( 37.5 )</td>
<td>33 ( 60.0 )</td>
</tr>
<tr>
<td>51 – 60 years</td>
<td>3 ( 18.8 )</td>
<td>12 ( 21.8 )</td>
</tr>
<tr>
<td>61 – 70 years</td>
<td>3 ( 18.8 )</td>
<td>2 ( 3.6 )</td>
</tr>
<tr>
<td>&gt; 70 years</td>
<td>4 ( 25.0 )</td>
<td>3 ( 5.5 )</td>
</tr>
<tr>
<td>Total</td>
<td>16 ( 9.0)</td>
<td>55 ( 30.6)</td>
</tr>
</tbody>
</table>
Discussion

• Only 21 (11.7%) of the 180 cases studied had any symptoms recorded by their doctors. This was attributed to the larger number of screening examinations included in the study.

• Eleven (52%) recorded pain, 7 (33.3%) swelling, and 3 (14.3%) with other symptoms such as nipple discharge, irritation and skin thickening.

• It is significant to note that most breast cancers present as painless lumps, hence imaging of the painful breast often aims to reassure the patient of a likely benign lesion.
Frequency of Presenting Symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>pain</td>
<td>11</td>
</tr>
<tr>
<td>swelling</td>
<td>7</td>
</tr>
<tr>
<td>others</td>
<td>3</td>
</tr>
</tbody>
</table>
Conclusion

- The large number of patients who undertook breast screening mammograms suggests that educational programs on early breast cancer detection are having a positive impact on the target population.
- The observation that 22.86% of lesions had features suggestive of breast cancer in the study is significantly high to also warrant intensification of the existing awareness programs.
- As non-specific masses were the most common radiographically observed lesions, hospitals equipped with sonography and biopsy facilities that compliment their mammography are better suited for thorough breast disease evaluation.
THANK YOU

August 2012.