

Malignant breast lesions in Eastern Nigeria

*Martin A. Nzegwu, MBBS, FMCPATH,
Adanna Anyikam, BSC, MPH,
Ben C. Ozumba, MBBS, FRCOG,
Anthony I. Ugochukwu, MBBS, FRCS,
Kenneth A. Agu, MBBS, FWACS.*

This study aims to define the spectrum of malignant breast diseases in eastern Nigeria, and highlight age variations of these malignant breast lesions and compare them with those of benign lesions and studies carried out elsewhere.

The study was conducted at the Morbid Anatomy Department of the University of Nigeria Teaching Hospital, (UNTH) Enugu, Nigeria a reference laboratory that caters for over 30 million people. The laboratory receives around 2,000 surgical pathology specimens per year due to the low utilization of its facilities out of poverty and lack of health awareness. The specimens were received in 10% buffered formalin and processed in auto processors. Primarily paraffin wax processing coupled with hematoxylin eosin staining solely was used to study the slides. The outside referral cases comprise 60%, and the inside hospital cases constitute 40% of the total specimens. In this study the records of all the breast specimens including mastectomies, lumpectomies, needle biopsies from admitted patients at UNTH, and outside referrals were included. Two independent pathologists reviewed these slides using only light microscopy. Unresolved and controversial specimens were discarded and excluded from the study, as well as benign cases. Mean ages and standard deviation was computed using the Statistical Package for Social Sciences. Ethical approval was sought and received before this study was carried out. The fact that in very rural areas in Eastern Nigeria the practice of throwing away surgical biopsy specimens without subjecting them to histological examination may still persist, imparts a limited limitation to the figures found in this study.

Adebamowo¹ reported that breast cancer is a very common malignant disease in Nigeria. In our environment, information on malignant breast diseases will be helpful in health care planning and resource allocation aimed at reducing the morbidity and mortality of this lesion purported to be the most common female malignancy from unpublished records. This is a descriptive retrospective review of malignant breast lesions as seen over a 5-year period, and it sets out to establish accurate base line data on malignant breast lesions in our environment. Despite the importance of such accurate data on breast lesions, there has been no data from the eastern part of Nigeria on the spectrum of breast diseases especially for malignant breast lesions in our environment.

A total of 1050 breast specimens were received in the Department of Morbid Anatomy of the University of Nigeria Teaching Hospital with 328 of them as malignant specimens. They were received as 128 mastectomy specimens, 175 lumpectomies, and 25 core breast biopsies. In the period under review, breast malignancy was the most common malignant lesion in females with 328 cases. The distribution of malignant breast lesions by mean age at diagnosis is presented in Table 1. There was no male case recorded at this period. Among the malignant breast lesions, invasive ductal carcinoma was the most common and it occurred at a mean age range of 32-55 years. Next was infiltrating or invasive lobular carcinoma, which occurred at a slightly later mean age of 36-60 years. Ductal carcinoma in-situ occurred at a mean age range of 33-52 years. Metastatic ductal carcinoma with ipsilateral lymph node involvement was seen at a mean age range of 32-69 years. Other malignant breast lesions were medullary carcinoma, metastatic cancers, and primary breast lymphomas (Table 1). Malignant breast carcinomas begin insidiously in the late teens and rises steadily through to 40-44 years when it peaks and then gradually regresses. Malignant breast lesions tended to peak 20 years later than their benign counter parts. Finally, the overall mean age of benign tumors was 17-42 years compared with those of the malignant at 31-56 years.

Breast cancer is the most common malignant lesion of females seen in the period of study. This finding agrees with other figures published in Nigeria by Adebamowo.¹ In comparison, breast cancer is also the most common invasive malignant condition reported in women in the United States, where it was documented by Miller

Table 1 - Showing the frequencies of malignant breast diseases with their mean ages of occurrence and standard deviations.

Malignancies	n (%)	Average age	Standard deviation
Infiltrating/invasive ductal carcinoma	249 (75.9)	43.4	11.9
Infiltrating/invasive lobular carcinoma	16 (4.9)	48.1	11.9
Metastatic ductal carcinoma	12 (3.6)	50.5	18.3
Ductal carcinoma in situ	15 (4.6)	42.6	9.6
Medullary carcinoma	11 (3.4)	36.1	11.0
Metastatic cancers	5 (1.5)	38.4	6.4
Lymphoma	2 (0.6)	-	-
Basal cell carcinoma	2 (0.6)	71.5	13.4
Unclassifiable	16 (4.9)	-	-
Total	328 (100)	43.6	12.5

et al,² to account for 32% of all cancers diagnosed in this population in 1994.² The relative late stages of breast cancer presentation in this study may be due to the fact that a yearly mammogram is virtually non-existent in our environment, and where such facility exists, the prohibitive cost coupled with wide spread unemployment and poverty makes it rather inaccessible to the average Nigerian woman in such few centers. However, yearly mammography in women older than 50 years of age is the cornerstone of the breast cancer screening effort in the United States.³ Mammography use has been reported by Moormeier³ to have increased substantially in the United States, during the last decade, the most recent surveys document an increase among both US black and white women. Again, in the United States, Moormeier³ reported that large population-based studies have repeatedly shown that similar to us here, black women have breast tumors at a more advanced stage at the time of diagnosis. Miller et al² alleged that black women have larger primary tumors, a higher incidence of spread to the axillary lymph nodes, and more distant metastatic disease than white women. John Easton quoted a study comparing, for the first time, breast cancers in women from Nigeria, Senegal, and North America published in the University of Chicago chronicle stated the following; “women of African ancestry are more likely to be diagnosed with a more virulent form of the disease than women of European ancestry.”⁴ Also, researchers from the University of Chicago, working with colleagues at the University of Calabar in Nigeria, and the University of North Carolina, found that breast cancers in African women produce a different pattern of gene expression.⁴ Tumors from African women, from 3 locations in Nigeria and one in Senegal, are more likely to originate from a different group of cells within the breast and often do not present the molecular targets that form the basis of many standard therapies.⁴ It would therefore appear from the above that a number of factors including a genetically different cancer cell clone of origin, poverty, environment, as well as poor medical facilities may be acting in concert to explain the fact of late presentation and poor prognoses in our environment. More work is needed in this area to further elucidate and characterize these differences.

The mean age for breast carcinoma was observed to be 31-56 years. A previous report by Ikekwaba⁵ in western Nigeria had indicated an average age incidence for breast cancer of 36-45 years.⁵ The absence of a male case in this report underscores the fact of its rarity here. This report also indicates that invasive ductal carcinoma classic variant was the most common lesion and occurring at mean age range of 32-55 years. Ikekwaba,⁵ had reported a regional prevalence of 49.2% for invasive ductal carcinoma in Western Nigeria, a

much lower comparative prevalence.⁵ It is therefore, the most dominant histopathological type of breast lesion found in both Western and Eastern Nigeria. Invasive lobular carcinoma was reported here to be the second most common histopathological subtype of malignant breast lesion, and it occurred at a later age of 36-60 years. Ductal carcinoma in-situ occurred at 33-52 years, slightly earlier than the more common invasive subtype above. Metastatic ductal carcinoma with ipsilateral lymph node involvement was seen at 32-69 years.

This report shows that malignant breast carcinomas begin insidiously at the late teenage and rises steadily through to 40-44 years when it peaks and then gradually regresses. Two minor peaks were also observed, the first at 30-35 years and a second one at 55-60 years. Finally, Easton⁴ again stated “The researchers studied the pattern of gene expression, a measure of which genes were turned on and active - in breast cancer tissue from 378 women in Nigeria and Senegal. They compared the results with a database of breast cancer tissue from 930 Canadian women, compiled by Carey and colleagues in North Carolina and British Columbia.⁶ They found 2 significant differences. First, breast cancers in African women were more likely to arise from basal-like cells, instead of the inner milk-secreting luminal cells, which are the most common source of breast cancers for US and European women. Tumors that arise from basal cells have a poorer prognosis, regardless of race.” Therefore, this difference in cell type of origin may also contribute in no small measure to the poorer prognoses and the virulent nature of breast cancer noticed here. This finding however needs to be studied further.⁴

In conclusion, the overall mean age of benign tumors compared to the malignant ones was 17-42 years compared with those of the malignant at 31-56 years, an interval of 20 years. We also tended to present with relatively advanced diseases. The acquisition and the use of mammography machine for routine screening in eastern Nigeria, which should begin at 35 years upwards, together with self-breast examination will drastically reduce both the incidence and severity of breast cancer in our population. More studies are however needed to authenticate these assertions, as well as molecular studies to characterize the nature of genetic mutations in breast cancers in our environment.

Received 16th November 2007. Accepted 12th March 2008.

From the Departments of Morbid Anatomy (Nzegwu), and Surgery (Agu), University of Nigeria Teaching Hospital, Department of Morbid Anatomy (Ozumba), University of Nigeria Medical School, Department of Obstetrics & Gynecology (Ugochukwu), Enugu State University Medical School, Enugu, Nigeria, and the Department of Surgery (Anyikam), University of Texas School of Medicine, San Antonio, Texas, United States of America. Address correspondence and reprint requests to: Dr. Martin A. Nzegwu, Head, Department Of Morbid Anatomy, University Of Nigeria Teaching Hospital, Pmb 01129, Enugu, Nigeria. Tel. +234 805 5509566. E-mail: martin_nze@yahoo.com

References

1. Adebamowo CA, Ajayi OO. Breast cancer in Nigeria. *West Afr J Med* 2000; 19: 179-191.
2. Miller BA, Gloeckler Ries LA, Hankey BF, Kosary CL, Hurray A, Devesa SS, et al. Annual cancer statistics review. SEER Program. Washington, DC: National Cancer Advisory Board; 1993. NIH publication no. 93-2789.
3. Moormeier J. Breast cancer in black women. *Ann Intern Med* 1996; 124: 897-905.
4. Easton J. Study shows women of African ancestry diagnosed with more virulent form of breast cancer. The University of Chicago Chronicle. 2005 April 28 [cited 2006 Dec 20]. Available from <http://chronicle.uchicago.edu/050428/africanbc.shtml>
5. Ihekweaba FN. Breast cancer in Nigerian women. *Br J Surg* 1992; 79: 771-775.
6. Carey LA, Perou CM, Livasy CA, Dressler LG, Cowan D, Conway K, et al. Race, breast cancer subtypes, and survival in the Carolina Breast Cancer Study. *JAMA* 2006; 295: 2492-2502.

Morbidity and mortality rounds in a Saudi hospital

Ahmad M. Zubaidi, MBBS, MSc.

Learning from one's errors is important, but confronting them is difficult and is particularly delicate when carried out at a meeting. Mortality and morbidity rounds (M&MR) are a double-edged sword, and particular attention should be given to the way they are conducted. Badly conducted M&MR usually fails to convey the lesson that attempting to learn from error, which result in unproductive and unpleasant discussion. This area of medical knowledge and practice and skill is usually ignored, not well taught to the undergraduate students and doctors in training, and yet not well studied by practicing physicians and surgeons. Historically, M&MR sprung from an attempt to address medical errors in departments of surgery and anesthesia.¹ This name is universally familiar to all physicians. Literature about M&MR comes exclusively from the disciplines of surgery and anesthesiology.²⁻⁴ Unfortunately, they have been found to be heterogeneous in format and diverse in focus. In particular, its role in relation to medical error is unclear and ambiguous. Whitman⁵ worried that the clinical cases presented are incidental to the presentation - "a vestigial organ in the body of the lecture". This study raises questions on definition, formats, goals, and objectives of these rounds.

The commonly understood principal reason to conduct an M&MR is to review a particular patient's poor outcome in detail with other faculties and trainees in an attempt to determine what led to the poor

outcome, and discuss ways to prevent a similar occasion from being repeated again. However, discussing all morbidities is not practical. It would be ideal to discuss major morbidities. Cases, which end in death or high morbidity or suboptimal clinic procedures or policies contributed to the adverse outcome should be prioritized over cases with less distressing outcomes. In my views, such discussions would allow for more detailed reviews of fewer patients, rather than superficial discussions on many patients. One of the major issues is a lack of a uniform agreed upon list of morbidities among surgeons that they wish to present on a consistent basis. However, there are situations where everybody may agree on. For example, deep-seated fluid collections, highly morbid wound infections, anastomotic leaks, "massive" blood transfusion, or ICU admission, incidental intra-abdominal organs injury such as ureteric injury, and so forth. Concentrating on individual patients in significant detail describing the unique events and circumstances that led to that patient's morbidity and/or mortality will lead to a subsequent discussion around what could have been carried out differently and subsequently identifying things that could be changed or improved about an individual or a system. Although, finding and implementing solutions to problems identified may be complicated, difficult, and seldom can be completely addressed in M&MR. Constructive criticism of clinical decisions leading to adverse outcomes is of little benefit if no changes are made as a result of these deliberations. The division head should take definitive steps to make effective changes for significant problems later.

Attendance is of paramount importance. In my opinion, and I believe is the opinion of many other physicians, attendance of all surgeons in the division as well as all other trainees in the department is essential. This includes medical students, residents, and fellows, whose attendance should be mandatory, which is currently applied in my hospital, it is mandated by the department as well as training rules and regulations. All doctors involved in the patient's care should attend, namely, surgeon, requesting consultant, emergency physician, anesthetist, intensivist, and any other consultants who were involved in the patient's care. However, this policy of inviting all participants is not applied in my institution. Instead, a letter of inquiry is sent to other involved department to discuss the case and the practice pitfalls around it. This usually compromises (in my opinion) the concept of openness and transparency, which should be the role where any physician interested in the patient or the discussion should be allowed to participate. This leads to paucity in opinions' diversity and perspectives yielding a more fruitful discussion, which in the long run hits the credibility of these rounds and eventually the credit of the division.

In my department, M&MR is held once per month in a room with audiovisual capabilities. Rounds usually take not less than an hour. However, it may span up to 2 hours. To have an intelligent fruitful discussion, a summary of the each case should be made available to all the consultants involved with the patient at least one week earlier. This is to allow them to think about and review the case. Unfortunately, this does not happen in the departments I have worked in. The junior member in the treating team is usually the presenter of the case, who I believe should not be. The practice worldwide, is that either the consultant surgeon or the fellow should be the one who presents.

The M&MR should be moderated by a senior physician who is experienced and skilled at creating a supportive atmosphere. The moderator should be a person who is not in line of authority above faculty clinicians, yet possesses enough clinical experience to recognize medical misadventures. Although this is ideal, it is yet hard to be applied in true practice. In the hospitals I have worked at, the moderator is usually the head of the department or the division. The role of the moderator is to balance the discussion at a middle ground between minimization and magnification. Impulsive comments with sympathetic tones should be modified and rephrase by the moderator. The most important role is to draw the lessons and benefits that are relevant to the errors made. Competent and skillful practitioners who are transparent and honest about their outcomes, colleagues, and patients will be judged fairly and gain respect. There is no consensus among the attendees about the benefit of these rounds. It is not clear to me if they like it or they pretend to like it, especially at the junior levels. A satisfaction survey at the end of the rounds would be of benefit to the future continuity and improvement of these rounds.

I believe that M&MR can provide a unique and important adjunct to the training and continued

education of all physicians. They have a great educational potential of improvement of the welfare quality to make better doctors and a stronger medical profession. However, I do not know whether all or most of practicing physicians in Saudi hospitals share a common understanding of the definition(s) of M&MR. It would be interesting to know what the verdict is here among them. It is also not known how well morbidities and mortalities are addressed in our Saudi hospitals. It is important to study how M&MR is conducted in various departments, what guidelines are followed, what conclusions are drawn, and do the hospital authorities implement and follow the recommendations of these rounds.

Received 26th September 2007. Accepted 18th March 2008.

From the Department of Surgery, King Khalid University Hospital, Faculty of Medicine, King Saud University, Riyadh, Kingdom of Saudi Arabia. Address correspondence and reprint requests to: Dr. Ahmad M. Zubaidi, Assistant Professor of Surgery, Colorectal and General Surgeon, Department Of Surgery, King Khalid University Hospital, Faculty of Medicine, King Saud University, Riyadh, Kingdom of Saudi Arabia. Tel. +966 (1) 4762606. Fax. +966 (1) 4679493. E-mail: amzubaidi@gmail.com

References

1. Orlander JD, Barber TW, Fincke BG. The morbidity and mortality conference: the delicate nature of learning from error. *Acad Med* 2002; 77: 1001-1006.
2. Biddle C, Oaster TR. Investigating the nature of the morbidity and mortality conference. *Acad Med* 1990; 65: 420.
3. Campbell WB. Surgical morbidity and mortality meetings. *Ann R Coll Surg Engl* 1988; 70: 363-365.
4. Harbison SP, Regehr G. Faculty and resident opinions regarding the role of morbidity and mortality conference. *Am J Surg* 1999; 177: 136-139.
5. Whitman N. Developing lecture skills. In: Edwards J, Marier R, editors. *Clinical Teaching for Medical Residents* (med educ. ser). New York: Springer; 1988. p. 75-91.

Copyright

Whenever a manuscript contains material (tables, figures, etc.) which is protected by copyright (previously published), it is the obligation of the author to obtain written permission from the holder of the copyright (usually the publisher) to reproduce the material in Saudi Medical Journal. This also applies if the material is the authors own work. Please submit copies of the material from the source in which it was first published.