

## **Influence of Socio-Cultural, Political, Economic Status and Environment on the Outcome of Surgical Practice in a Developing Tropical Country-Using Breast Cancer as Case Study**

M.L. Adeoti, A.S. Oguntola, A.O.A. Aderounmu and O.S. Agodirin

Department of Surgery, LAUTECH Teaching Hospital, P.M.B 4400, Osogbo, Nigeria

**Abstract:** A large number of our patients present with advance breast cancer and quite a large number are unable to afford the cost of even minimal intervention i.e. investigation, operation and chemotherapy. They are easily lost to spiritual houses or traditional healers home. This greatly worsens the outcome of care. We believe these are related to the effect of poverty, ignorance, illiteracy, which could all be secondary to socio-cultural beliefs and political instability. To present the effects of the above mentioned factors on the outcome of care of breast cancer among other disease entities in south western Nigeria as seen in our hospital. The constraints encountered are also to be highlighted. A retrospective study of all breast cancer patients seen between June 2001 and May 2006 (five year period). One hundred and nineteen (75%) out of 158 cancer of breast cases presented late-with Manchester stage III and IV. Thirteen of the operated cases (13%) had local or/and axillary recurrence at one year. Mortality of the followed up cases at one year was 5%. With intensified public enlightenment effort to facilitate early detection, economic empowerment of the populace and prioritization of limited resources, the management and outcome of breast cancer will be more favorable.

**Key words:** Cancer of breast, economy, culture, religion, education, influence

---

### **INTRODUCTION**

LAUTECH Teaching Hospital is located in Osogbo a suburban town in South West Nigeria. It has a population of about 0.8 million made up civil servants, farmers and artisans. Nigeria is a developing country of about 150 million people mostly of low socio-economic status (GDP of \$1320), with the estimated total health spending of less than \$45 per person per year and low literacy level (60%) and unstable polity. It is an Oil-producing state. This is why some people have described the country paradoxically as a rich country of poor people which makes her to qualify as a "limited-resource country" as far as Breast Health Global Initiative (BHGI) initiative is concerned (Benjamin *et al.*, 2005).

The aim of this study is to assess the effect of poor economic status, ignorance, cultural belief and political instability among other factors on the outcome of treatment of cancer of the breast in a Nigerian Teaching Hospital.

To highlight the modest success and achievement obtained in spite of the setback and constraints. To also

share our experience with Surgeons who "have it all" and may have to practice in a less developed setup.

### **MATERIALS AND METHODS**

This is a retrospective study of cases of breast cancer seen between June 2001-May 2006 (5 year period) at the LAUTECH Teaching Hospital, Department of Surgery, Osogbo.

The relevant data were extracted from case files of the patients treated for cancer of breast during period under study. The diagnoses were made on account of fine needle aspiration cytology, excisional biopsy, incisional biopsy and clinically for the advanced cases.

This is equivalent to the minimal requirement for diagnosis of breast cancer (Basic level) in a limited-resourced country (Benjamin *et al.*, 2005).

The treatment generally consisted simple mastectomy with axillary node dissection for stages I and II and administration of Tamoxifen, adjuvant chemotherapy of 5 fluoro-uracil, methotrexate and Cyclophosphamide (CMF). For patients with locally advanced tumor, simple mastectomy, followed with administration of tamoxifen and CMF.

For patients with ulcerated breast lesions, debridement of the fungating mass or simple mastectomy when feasible for a few of them, followed by administration of tamoxifen and CMF. Fifteen of the locally advanced cancer cases were only operated after they had received Neo-adjuvant chemotherapy to de-bulk the tumor. Some of the patients that needed post-operative radiotherapy were referred to the only available centre in South West Nigeria (serving a population of about 40 million) which is about 80 km away.

## RESULTS

One hundred and fifty eight patients with suspected carcinoma of the breast were seen at the surgical out-patient over the 5 year period. One hundred and fifty six of them were females and only 2 were males (1.26%) giving a ratio of 87:1. The ages ranged from 22 years to 78 years with a mean of 46 years. Sixty five percent of our patients are pre-menopausal.

Most of the patients, 119 (75%) presented with advanced carcinoma with Manchester classification III and IV (Table 1). The most common histological type is invasive ductal carcinoma. There was a case of bilateral Burkitts lymphoma of the breast in a pregnant patient.

Out of the 97 operated, 36 patients (37.2%) were lost to follow up at 1 year postoperatively (Table 2). Many of these could not complete their courses of chemotherapy. Others never reported back after being referred for radiotherapy. Thirteen patients out of the operated cases had local or/and axillary recurrence at one year. Sixty one patients were not operated, representing 38.9% of the patients seen. Twenty five patients (15.8%) absconded after receiving some treatment. Twenty two discharged themselves against medical advice (Table 3). Four patients

(2.5%) died before any procedure could be done for them. The morbidity/mortality rate is difficult to evaluate because of poor record keeping and difficulty in following up the patients. Mortality of the followed-up cases at one year was 5%.

## DISCUSSION

Cancer of the breast is the most common female malignancy globally (30-45%) of all malignancies including Nigeria.

The expected and normal wide local excision with immediate or late breast reconstruction could not be considered in view of the advance grade in most of our patients (Table 1), thus giving us poor out-come aesthetically. Non availability and non affordability basic level treatment like Tamoxifen and CMF, talk less of newer and more effective chemotherapeutic agents like aromatase inhibitors like anastrozole, letrozole, HERS-2. Antagonist like Herceptin has no doubt negatively affected survival and increased recurrence rate in them. Out of the 97 operated, 36 patients (37.2%) were lost to follow up at 1 year postoperatively (Table 2). Many of these could not complete their courses of chemotherapy.

Only eight (8.2%) of the operated cases had the 'luxurious' opportunity of receiving radiotherapy. The waiting list there is always a long one and the cost of treatment is quite high, as such most of the patients ended up not receiving radiotherapy. Many patients never reported back after being referred for radiotherapy. Thus radiotherapy which is an essential part of multimodality treatment of breast cancer is not readily available.

Sixty one patients were not operated, representing 38.9% of the patients seen (Table 3).

The morbidity/mortality rate is difficult to evaluate because of poor record keeping and difficulty in following up the patients. Thirteen patients out of the operated cases had local or/and axillary recurrence at one year. Mortality of the followed-up cases at one year was 5%.

Reasons for non-operation included extremely late presentations with complications like pleural effusion, anemic heart failure, massive ascites, severe hypoproteinaemia pathological fracture etc. Up to 2-5% of such patients die within 24-48 h of admissions. Other patients refuse to give consent for operation, opting for spiritual, herbal and other alternative treatment. Frustrations on the part of the patient due to infrequent postponement of procedure for logistic reasons like lack of electricity, water, anesthetic agents and unplanned public holidays are equally responsible for not operating. Quite a number were unable to afford the cost of even basic investigation and other procedures.

**Table 1: Statics of the patients with breast cancers and the staging**

Manchester stage	Number of cases	(%)
Stage I	14	9.10
Stage II	25	15.91
Stage III	45	28.41
Stage IV	74	46.59
Total	158	

**Table 2: Summary of cases of breast carcinoma seen**

Seen at surgical out-patient	Operated	Operated and lost to follow up	Not operated
158	97(61.1%)	36(37.2%) of 97	61(38.9%)

**Table 3: Summary of un-operated cases and reasons for non-operation**

Referred due to industrial action	5 patients	3.2% of 158 patients
Absconded	25 patients	15.8% of 158 patients
Referred for radiotherapy	5 patients	3.2% of 158 patients
Died before surgery	4 patients	2.5% of 158 patients
Voluntary discharge against medical advice	22 patients	13.9% of 158 patients
Total	61 patients	

Since there is absence of pain in the early stage, many patients do not believe the seriousness of the problem, hence presenting late. In spite of concerted efforts, awareness about breast cancer still remains very low (Aderounmu *et al.*, 2006) Denial of the presence of the disease is quite common and is deeply rooted in religious beliefs. There is also a dangerous belief among Nigerians that there are medications that can melt breast cancer. Conspicuously present are charlatans, the spiritualists, Herbalists, quack doctors who give the patients false security by claiming that they can cure the cancer and preserve the breast. They misdiagnose ulcerated breast cancer as ordinary ulcers and infections which unnecessarily delay management. Studies elsewhere had already linked low socioeconomic status with such late presentation (Lannin *et al.*, 1998; Bradley *et al.*, 2002; Taylor and Cheng, 2003; Gordon, 2003). The low literacy level in Nigeria (65%) has a deleterious effect on awareness effort. The low literacy level also accounts for ignorance and wrong religious consideration.

Regular Mammographic Screening is not possible due to lack of equipment and enough trained personnel. It is only available in few centers but not affordable to most patients inflicted with the cancer. In fact some centers now improvise the regular X-ray machines to perform mammography by removing the light beam diaphragm and using a very low KVP for exposure. Less than 15 functional CT sub serve a 150 million population. Those patients cannot enjoy early diagnosis not to talk of screening.

Proper registration and adequate monitoring of health facilities especially the privately owned and the spiritual/traditional workshop shall definitely allow for early presentation with good progress since good percentage of our populace had their diagnosis/treatment delayed by them.

### RECOMMENDATIONS

The role of Breast Self Examination (BSE) (Baiq and Ali, 2006) in early detection of breast cancer cannot be over-emphasized in communities where sustenance of modern diagnostic equipment like a mammography cannot be guaranteed.

There is an urgent need for a well defined, consistent, non-sporadic and well articulated national and local Breast cancer awareness campaign strategy. Nigeria, the largest country in West Africa, is observed to be making a very slow progress towards the millennium

developmental goals. There is no easily accessible multidisciplinary specialized center for cancer management. There is also need for established policy on end-life care, a national cancer registry and above all a National Cancer Institute. Following the recommended guidelines of the Breast Health Global initiative will be of great benefit in prioritizing and maximizing the limited resources in the management of breast cancer (Alexandru Eniu *et al.*, 2005).

### REFERENCES

- Aderounmu, A.O.A. and E.O. Ojofeitimi *et al.*, 2006. Knowledge, attitudes and practices of the educated and non-educated women to cancer of the breast in semi-urban areas of Southwestern Nigeria. *Nig. Postgraduate Med. J.*, 13: 182-188.
- Alexandru Eniu *et al.*, 2005. Breast Cancer in limited-resource countries: Treatment and allocation of resources.
- Anderson, B.O. *et al.*, 2005. Breast Cancer in Limited-Resource countries: An Overview of the Breast Health Global Initiative.
- Baiq, S. and T.S. Ali, 2006. Evaluation of efficacy of self breast examination for breast cancer prevention: A cost effective screening tool. *Asian Pac. J. Cancer Prev.*, 7: 154-156.
- Base, N.S. *et al.*, 2005. Radiotherapy for breast Cancer in countries with Limited resources: Program Implementation and evidence-based recommendations.
- Bradley, C.J., C.W. Given and C. Roberts, 2002. Race, Socioeconomic status and breast cancer treatment and survival. *J. Natl. Cancer Inst.*, 94: 471-473.
- Gordon, N.H., 2003. Socioeconomic factors and breast cancer in black and white Americans. *Cancer Metastasis Rev.*, 22: 55-65.
- Lannin, D.R., H.F. Mathews *et al.*, 1998. Influences of socioeconomic and cultural factors on racial differences in late-stage presentation of breast cancer. *JAMA.*, 279: 1801-1807.
- Odusanya, O.O. and O.O. Tayo, 2001. Breast cancer knowledge, attitudes among nurses in Lagos, Nigeria. *Acta Oncol.*, 40: 844-888.
- Odusanya, O.O., 2001. Breast cancer: Knowledge, attitudes and practices of female school teachers in Lagos, Nigeria. *Breast J.*, 7: 171-175.
- Taylor, A. and K.K. Cheng, 2003. Social deprivation and breast cancer. *Public Health Med.*, 25: 228-233.