AFRICAN JOURNAL OF MEDICINE
and medical sciences

VOLUME 22, NUMBER 3, SEPTEMBER 1993

DIGITIZED BY E-LATUNDE ODEKU LIBRARY COLLEGE OF MEDICINE UI

EDITOR: B.O. ONADEKO
ASSISTANT EDITORS:
B.O. OSOTIMEHIN and A.O. UWAIFO

SPECTRUM BOOKS LIMITED
Ibadan • Owerri • Kaduna • Lagos

ISSN 1116–4077

Afr. J. Med. med. Sci. (1993) **22**, 65-68

Influence of size of primary breast tumour on local control

T. A. OLASINDE and L. HANDL-ZELLER

*University Clinic for Radiotherapy and Radiobiology, Allgemeines Krankenhaus der Stadt Wien, Alser Strasse 4, A-1090 Vienna Austria**

Summary

Four hundred and five (405) patients with histologically proven primary breast carcinoma were analysed in this study. There was complete response of 64.2% after surgery and radiotherapy. This is a better result in comparison with developing countries, for example, Nigeria where over 90% of cancer patients report at a late stage before treatment and inadequate radiotheraphy facilities lead to long waiting list. A tumour regression rate (complete and partial) of 98.3% was obtained.

This work has shown that most women with breast cancer could be cured when the lesions are detected very early and sizes smaller.

Résumé

Quatre cent cinq (405) patients avec le carcinome primaire du sein histologiquement prouvé sont analysés dans cette présente étude. Il y avait une réponse complète de 64, 2% après la chirurgie et la radiothérapie. Ce résultat est meilleur par rapport à ce qui est le cas dans les pays en voie de développement (par exemple le Nigéria) où 90% des cancéreux se présentent très tard pour les soins médicaux. Cette présentation tardive, ajoutée aux facilités de radio — thérapie inadèquates expliquent la longue attente des patients, le taux de régression des tumeurs (complet et partiel) de 98,3% a été obtenu.

Cette étude démontre le fait que les femmes souffrant du cancer du sein peuvent quérir lorsque les lésions sont petites et détectées três tôt.

Introduction

The cause of breast cancer is not known. However some risk factors are accounted for in about 25% of cases, for example, early menarche, late menopause, history of breast cancer in the family, use of hormonal contraceptives though controversial and nulliparous patients.

Breast cancer often present without signs and symptoms but the commonest if present are lump, localised or diffused pain, nipple discharge and retraction of the nipple or skin.

Certain types of breast cancer are rapidly growing than the others and as at now there is no means of knowing which type a woman will have. Boyd *et al*[1] suggested that patients with slowly growing tumours have a survival advantage over those with more aggressive disease. The incidence of the disease has increased from 1 in 20 women about 22 years ago to 1 in 10, and there has been a particular rapid rise among the under 50s, and even 40 years old[2].

Several prognostic factors for primary breast cancer have been reported. The most important factors are extent of axillary lymph node involvement, pathologic grade size of tumour and hormone receptor protein status[3]. This study focus mainly on influence of tumour size on local control. No doubt, size has been found to contribute additional independent prognostic information[4].

Postmenopausal patients fare better followed by the premenopausal, while the perimenopausal have worst prognosis[5,6]. Majority of our patients are postmenupausal.

Wang *et al*[7] found that the more the number of children a patient has the better. In this environment, majority of women are nulliparous or have smaller family size. The prognosis is also poorer in women with early menarche[4].

Material and methods

A retrospective study of four hundred and five (405) women with primary breast cancer referred to our clinic between the period January 1985 to December 1988 were analysed. We have used data from the patients case notes to analyse their survival experience. They are of different races but mostly

* Correspondence: Dr. T. A. Olasinde, Department of Radiology, Ahmadu Bello University Teaching Hospital, Kaduna, Nigeria.

DIGITIZED BY EUSTAQUIO COLLEGE OF MEDICINE, UI

caucasians.

Excluded from the study are male cases, those with distant metastases at presentation, incomplete information especially those with tumour sizes not recorded and defaulters. Tumour size was recorded by clinician who examined the patient or by investigative procedures such as mammography, ultrasound or by pathologist who measured the specimen. Emphasis was more on mammography findings since it is the most reliable procedure capable of detecting non-palpable mammary carcinoma. Though very sensitive, mammography is a non-specific examination as false- positive biopsy rate is approximately 70-80%[8]. Therefore all positive cases were reconfirmed by histology. Also not all clinical assessment correspond with histology findings.

Treatment

Mode of treatment of the patients were:

Surgery — lumpectomy or simple mastectomy. Advantages are for cosmetic reasons, reduction of postoperative morbidity e.g. lymphoedema and breast reconstruction is better if required. Post-lumpectomy patients received interstitial brachytherapy (with Iridium-192) of 10 Grays. Following surgery (lumpectomy or simple mastectomy) some patients received adjunct therapy such as external radiotherapy using Cobalt-60 machine (Gammatron) or linear accelerator (Mevatron). Cytotoxic chemotherapy, or hormonal therapy (mainly Tamoxifen) for patients who had positive hormone receptors (Oestrogen) — these patients constitute 65%.

Majority of these patients have their teletherapy (external radiotherapy commenced two to four weeks after surgery. Fifty Grays of teletherapy are delivered in five weeks via tangential opposed fields using wedge. Though it should be noted that radiotherapy in the management of breast cancer can be used as primary, pre-operative, post-operative and palliative measures. The use of chemotherapy in node positive patients are to prevent local-regional recurrences. These patients received combined chemotherapy (Cyclophosphamide, Methotreaxate and 5-Fluorouracil) which are more effective than single agents. Average of six courses of chemotherapy are given before or after radiation therapy.

Results

A total of 405 cases were analysed. The age range was between 21 years and 95 years with a mean of 58 years. Twenty seven per cent of the patients are under 50 years as seen in Table. 1.

Table 1: Age distribution

Age (years)	Number	%
< 30	5	1.23
30 - 39	41	10.12
40 - 49	65	16.05
50 - 59	98	24.20
60 - 69	133	32.84
70 - 79	44	10.86
≥ 80	19	4.10

Table 2: Tumour sizes in greatest dimension (diameter)

Tumour Size (cm)	Number	%
< 1	61	15.0
1 - 1.9	138	34.1
2 - 2.9	97	24.0
3 - 3.9	63	15.5
4 - 4.9	23	5.7
≥ 5	23	5.7

Apart from 1% in which the tumours are bilateral, they are unilateral and there was no preponderance of one side over the other. Tumours sizes were measured in diameter and approximately 50% of the patients have sizes less than 2 cm (Table 2). Sixty one patients have sizes less than 1 cm including the carcinoma in-situ. This brings out the significance of screening and use of procedure like mammography in diagnosis. The peak of the cases are 1 — 1.9 cm (Fig. 1) which could account for the better response, unlike in developing countries where the patients usually present late with tumour size usually greater than 4 cm[9]. Axillary lymph nodes were involved in two-thirds of patients included in the study. These are local-regional nodal involvement.

DIGITIZED BY FACULTY OF MEDICINE LIBRARY COLLEGE OF MEDICINE, UI

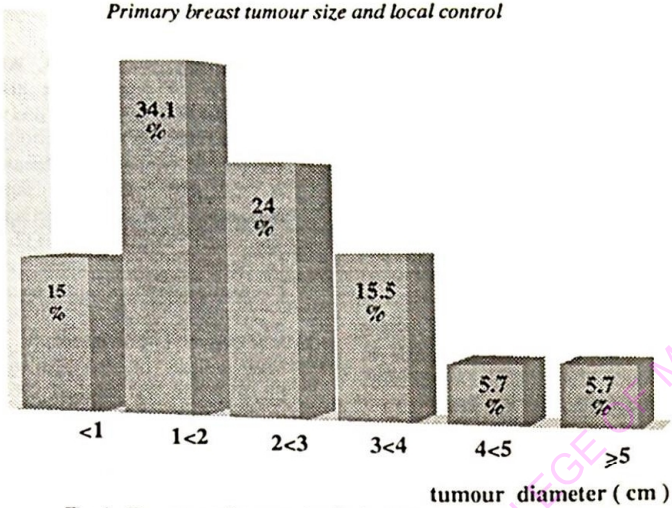

Fig. 1: Frequency of tumour size for breast cancer at patients presentation

Menarche occurred within 10-13 years among 251 patients and 65% of the cases were postmenopausal at presentation which could have also accounted for high tumour regression rate.

Table 3: Tumour regression rate

Response	No. of Cases	%
Complete Response	260	64.2
Partial Response	138	34.1
No Response	5	1.2
Progression	2	0.5

A tumour regression rate (complete and partial) of 98.3% was obtained as shown in Table 3. The tumour regression was noted to be further enhanced by chemotherapy or brachytherapy.

Discussion

The patients were followed-up between 15 months to 5 years. There is also plan to re-evaluate their response in 10 years. The patients were re-examined at subsequent visits and subjected to interval mammography of bilateral breasts (patients who had lumpectomy) and of contralateral breast (patients who had simple mastecomy). Haematological investigations also essential with special attention to the liver function test.

It has been estimated that on the average, breast cancers double in volume every 100 days and double in diameter approximately every 300 days[10,11]. Smaller breast cancers are detectable by repeated physical self-examination[12] apart from using diagnostic equipment like mammography, ultrasound, computed tomography, thermography, diaphanoscopy, which may not be available or costly for patients.

About half of the patients (199) have lesions with diameter less than 2cm and probably accounted for high percentage of complete remission (64.2%). Early diagnosis increases the number of smaller tumours found. Therefore all adult women should submit themselves to periodic breast examinations as outlined by the American Cancer Society. Better responses are obtained with oestrogen receptor positive cancers (65% of these patients) than in oestrogen receptor negative cases. So, knowledge of the hormone receptor status of each patient is equally important.

Moreover, the diagnosis and management of breast cancer is a team work. So there should be constant communication on the line of management among the surgeon, radiotherapist, radiologist and pathologist.

Acknowledgements

Special thanks to Prof. K. H. Karcher, and International Atomic Energy Agency, Vienna, for the fellowship award to Dr. T. A. Olasinde. Mention must also be made of Mrs. Holweg for secretarial assistance.

DIGITIZED BY E-LIBRARY, OAU LIBRARY, COLLEGE OF MEDICINE, UI

References

1. Boyd NF, Meakin JW, Hayward JL, Brown TC. Clinical estimation of the growth rate of breast cancer. Cancer 1981; 48: 1037-1042.
2. Strax P. Control of breast cancer through mass screening: from research to action. Cancer 1989; 63: 1881-1887.
3. Haybittle JL, Blumey RW, *et al.* A prognostic index in primary breast cancer. Br. J. Cancer 1982; 45: 361-366.
4. Callefi M, Fentiman IS, Birkhead BG. Factors at presentation influencing the prognosis in breast cancer. Eur. J. Cancer Clin. Oncol. 1989; 25: 51-56.
5. Langlends AO, Kerr GR. Prognosis in breast cancer: the effect of age and menstrual status. Clin. Oncol. 1979; 5: 123- 133.
6. Cutler SJ, Asire AJ, Taylor SG: An evaluation of ovarian status as a prognostic factor in disseminated cancer of the breast. Cancer 1970; 26: 938-943.
7. Wang DY, Rubens RD, Allen DS *et al.* Influence of reproductive history on age at diagnosis of breast cancer and prognosis. Int. J. Cancer 1985; 36: 427-432.
8. Homer MJ. Non-palpable breast abonormalities: A realistic view of the accuracy of mammography in detecting malignancies. Radiology 1984; 153: 831-832.
9. Durosinmi-Etti FA. Cancer patients in Nigeria. Causes of delay in diagnosis and treatment. Nig. Q. J. Hosp. Med. 1985; 3: 28-30.
10. MacDonald T. The breast, In: Nealon TF, (ed.) Management of the patient with cancer. Philadelphia: WB Sanders, 1965: 435- 469.
11. Fisher B, Slack NH, Bross IDJ. Cancer of the breast: Size of neoplasm and prognosis. Cancer 1969; 24: 1071-1080.
12. Foster RS, Constanza MC. Breast self-examination practices and breast cancer survival. Cancer 1984; 53: 999-1005.

(Accepted 10 January, 1991)

DIGITIZED BY E-LATUNDE ODEKU LIBRARY COLLEGE OF MEDICINE UI