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Result of Breast Cancer Survival and Prognostic Factors at National Cancer Institute (Thailand) during 1992-1996

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Abstract **Breast cancer is a common leading cancer in Thai women. A retrospective, non-randomized, analysis of 873 cases of breast cancer treated at the National Cancer Institute in Bangkok from June 1, 1992 to December 31, 1996 was made. Their medical records were reviewed to the date of last follow-up or the confirmation of death certificate. Data studied included the disease staging, primary tumor size, axillary lymph node status, estrogen receptor (ER) and progesterone receptor (PR), histologic type and grading, systemic metastasis, marital status, education level, treatment and survival.**

The per cent of patients classified by staging 1-4 were 8.1, 51.2, 29.0 and 11.7 per cent respectively. Their mean age was 48.34 years, ranging 22-85 years. Chemotherapy was given in 72.6 per cent after surgery and in combined treatment with radiation in the cases of stages 2 and 3. Majority of histologic type was ductal carcinoma (80.9 per cent). The overall 5-year survival was 50.4 per cent. By the Anova test. over all survival was statistical significantly related to staging of cancer, size of primary tumor, number of involved axillary lymph nodes, histologic type and grading of tumor. systemic metastasis, marital status, patients' education, and types of treatment.

Breast cancer is a common leading cancer in Thai women and was ranked in the 2nd[1,2] in 1992-1996. Problem related to death is the advanced disease due to delay in diagnosis, improper treatment, ignorance and lack of knowledge, especially in the breast examination; so to make diagnosis in early stage is the most challenging task for treatment with the aim for cure.[3,4] Some prognostic factors such as the hormonal receptors mainly estrogen receptor (ER) and progesterone receptor (PR), have the better survival when they are positive even with positive axillary lymph nodes.[5] The histopathology and grade of tumor is one of the important prognostic factor as well as axillary nodes positive status.[6] Economic and race of population had reported in many countries as one factor of survival.[7]

Patient and Method

Retrospective analysis was made in 873 cases of breast cancer treated at National Cancer Institute in Bangkok during June 1, 1992 - December 31, 1996 without randomization. Medical records were reviewed since the date of diangosis and date of last seen or confirmed death by death certificate for the lost follow up cases. The follow-up ended in September 1997.

The prognostic factors were studied as the following: clinical staging of disease (TNM system)[8]: tumor size, axillary lymph node, hormonal status: Estrogen recptor (ER), Progesterone receptor (PR), histologic type, grade of tumor, age, marital status, menopausal

status, education, type of treatment, and over all survival

Results

From the analysis of 873 cases of breast cancer, they were classified by clinical staging: stage 1-4 were 8.1, 51.2, 29.0 and 11.7 per cent respectively (Table 1).

Mean ages was 48.34 ± 11.46 (S.D.); range 22-85 years. There were premenopausal cases in 51.2 per cent and postmenopausal 49.8 per cent. Histologic types were outlined in Talbe 2. Ductal carcinoma was 80.9 per cent, lobular carcinoma 3.9 per cent, medullary carcinoma 2.2 per cent, mucinoma carcinoma 2.4 per cent and other (Paget's disease, mixed ductal and lobular, tubular carcinoma, DCIS + invasive ductal, LBCI + invasive lobular carcinoma) 10.7 per cent (Table 2). Histologic grade of tumor was examined in only 329 cases (37.7 %) out of the total 873 cases. They were 46 cases (14.0 %) of grade 1 (well-differentiated), 191 cases (58.0 %) grade 2 and 92 cases (28.0 %) grade 3. Estrogen receptor was determined in 205 cases (23.5 %) and was positive in 75 cases (36.6 %), negative in 130 cases (63.4 %). Progesterone receptor was determined in 26 cases (3.0 %) and was positive in 13 cases (50 %), negative in the other 13 cases (50 %). The five-year over all survival (60 months) of all stae in this group was < 50.4 per cent. By Anova test of the survival and prognostic factors, the results statistic significant for stage of disease, number of axillary lymph nodes, grade of tumor, metastasis, combination of treatment > 2 modalities, size of tumor (p<.0001), estrogen receptor (p=0.1), progesterone receptor (p=0.1), age (p=0.026); menopausal status (p<.0001), martial status (p=0.0387), education (p=0.02), chemotherapy single treatment (p=0.46); and surgery alone (p<.001). Mean survival in months for axillary lymph nodes, tumor size as the prognostic factors were shown in Tables 3,4. Survivals in various stages of disease 1,2,3,4 were shown in Figure 1.

Treatment of the cancer varied depending upon the stages of the disease. Sixty nine cases (7.9 %) underwent surgery alone, whereas 403 cases (46.2 %) received radiation therapy only. Hormonal treatment was given to 241 cases (27.6 %). Two hundred and eighty two cases (32.3 %) received combination treatment. The majority of cases (634 cases, 72.6 %) were treated by chemotherapy including neo-adjuvant in stage 3 and post-operative in stages 2 and 3 whose tumors were greater than 3 cm with lymph node metastasis.

Table 1 Frequencies and stage of disease

Staging	Cases	Per cent
Stage 1	71	8.1
2	447	51.2
3	253	29.0
4	102	11.7
Total	**873**	**100.0**

Table 2 Pattern of histopathology

Histopathology	Cases	Per cent
Ductal ca	706	80.9
Lobular ca	34	3.9
Mucinous ca	21	2.4
Medullary ca	19	2.2
Others	93	10.6
Total	**873**	**100.0**

Table 3 Prognostic factor of lymph nodes and mean survival in months (Kalplan Meire).

Node	Mean	S.D.	95%Conf. interval
0	33.97	0.45	23.74 - 26.28
1 - 10	30.72	0.43	29.87 - 31.37
10 - 20	24.88	0.73	23.44 - 26.31
> 20	20.61	2.45	15.81 - 25.41

Table 4 Prognostic factor of tumor size and mean survival in months (Kalplan Meire).

Tumor size	Mean	S.D.	95% Conf. interval
< 2 cm	42.38	1.88	38.69 - 46.06
2 - 5	35.70	0.92	33.89 - 37.51
6 - 10	28.99	2.04	24.98 - 33.00
> 10	21.56	1.34	18.92 - 24.19

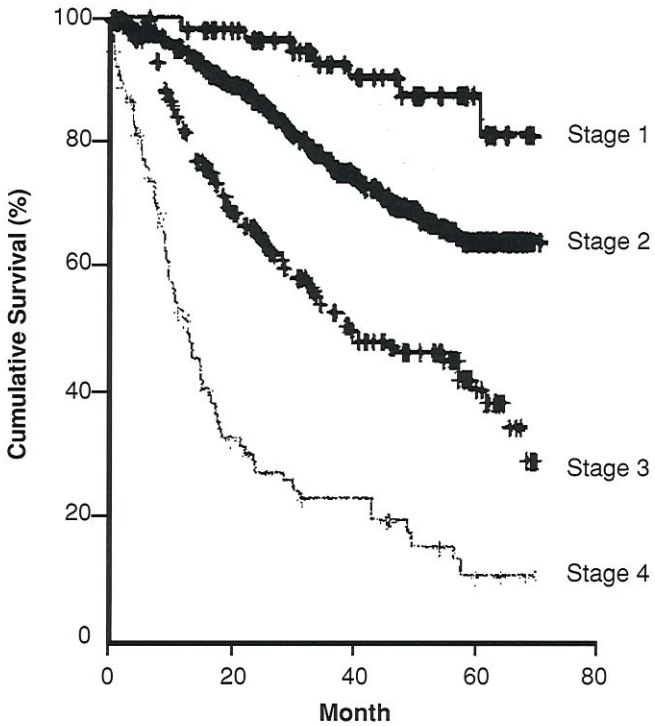

Fig. 1 Survival in months of various stages of disease.

Discussion

Breast cancer is a treatable disease and may be curable if diagnosed at early stage. At present, 5-year survival is usually greater than 80 per cent.[8] The results of treatment remain unsatisfactory or poor for the more advanced stages of disease, locally advanced or with systemic metastasis. The overall 5-year survival is usually less than 50 per cent.[9]

In our studied we have only 8.1 per cent of cases of stage 1 despite increasing patient awareness and use of mammographic studies. The majority of our patients sought medical attention after the clinical presence of a sizable breast mass (stage 2 or greater) was found (Table 1). Therefore, the overall survival in our series was low (50.4 %). However, the 5-year survival of patients in stage 1 was better than the more advanced groups (Figure 1).

The size of primary tumor and the number of positive axillary lymph nodes are the important factors affecting patients' survival in our study which supported the findings reported by Arriagada et al.[11] Cases with positive ER receptor is known to be associated with better prognosis than those with negative results in the same staging.[8,9,11,12] Post manopausal women are more likely to have positive ER and PR receptors.[11] Our data of ER and PR receptors determination was small mainly due to referral cases that the tumor tissues were not available for retrospective analysis. Patients' social class (background of education) and marital status were statistical significant factors influencing the treatment outcome. Emphasis should be made to promote health education and self breast examination in order to improve survival rate of breast cancer in Thai women. Treatment guideline for early breast cancer detection by a breast screening check-up program is needed. Mammography should be recommended for non-palpable lesion in the high risk population.[13]

Other prognostic factors such as C-erbB-2 in node positive patient, P53 and HER 2/neu were reported to be of predictive value for disease free interval and overall survival.[14] Data concerning these prognostic markers were incompletely studied in our patients and thus were not included in this report.

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