

**DIFFERENT ASPECTS OF OVER 15 YEAR SURVIVAL
AMONG INVASIVE BREAST CANCER PATIENTS**

Ivanov I.¹, Baitchev G.¹, Betova T.², Nenov I.¹

Department of Surgical Oncology Circle of Surgery 1
Department of General and Clinical Pathology 2

University of Medicine-Pleven, Pleven 5800 Bulgaria

Summary

Until the late 1980's total mastectomy combined with ovariectomy was considered as optimal curative measure for invasive breast cancer. Later it was substituted by mastectomy combined with chemotherapy, which was believed to be more efficient and less traumatic.

Aim of this study was to investigate different aspects of over 15 year survival among invasive breast cancer patients.

A detailed review for the period from 1962 to 1992 of the Pleven University Hospital, Cancer Register, was made. Case history charts of 651 women suffering from invasive breast carcinoma (histologically and clinically verified), who had over 15 years survival after receiving primary treatment, were obtained. Information concerning tumor type, stage, treatment approach and presence of local tumor relapses was analysed.

Patients from different age groups demonstrated different response to treatment. While the total mastectomy combined with ovariectomy resulted in moderate over 15 year survival among menstruating and premenopausal women (age group under 46, respectively 47-53) and low survival among menopausal women (age over 54), the total mastectomy combined with chemotherapy resulted in increase of over 15 year survival among menstruating as well as menopausal patients. In the same time the treatment of premenopausal women by total mastectomy combined with chemotherapy resulted in decrease of 15 year survival among patients in this group.

The estrogen excess frequently observed in premenopausal women could be the factor that affected 15 year survival chance in patients with invasive breast cancer. More detailed study is needed to confirm or deny this hypothesis.

Keywords: Breast carcinoma, 15 year survival, Treatment

Introduction

Until the late 1980's total mastectomy combined with destruction of the ovaries was considered as optimal curative measure for invasive breast cancer.(1) Later it was substituted by mastectomy combined with chemotherapy, which was believed to be more efficient and less traumatic.

How this change did affected the long term survival of breast cancer patients? Were there any “naturally privileged” groups of patients (how did menstruation status, size of the primer lesion, and axillary lymph node status affected over 15 year survival). survival rates for most types of cancer level off after five years, those for breast cancer continue to fall (2), that is why we observed over 15 year survival

Aim of this study was to observe different aspects of over 15 year survival among invasive breast cancer patients.

Materials and methods

A detailed review for the period from 1962 to 1992 of the Pleven University Hospital, Cancer Register, was made. Case history charts of 651 women, who suffered from invasive breast carcinoma (histologically and clinically verified), and had over 15 year survival after receiving primary treatment, were obtained. The patients were divided in two groups: treated by total mastectomy combined with ovariectomy (from 1962 to 1987) n=388 and by mastectomy combined with chemotherapy (from 1988 to 1992) n=263. The patients were also divided in three groups according to their menstruation status: menstruating n=287 (under 46 years old); late premenopausal n=182 (47-53 years old); menopausal n=182 (over 54 years old). The age limitation of these groups was determined as average values for the studied group. Variables such as menstruation status, size of the primer lesion, axillary lymph node status and treatment approach were evaluated.

Results

When we observed and analyzed the long term survival of breast cancer patients during the 1960's and the early 1970's, we found random distribution of the patients which was not affected by their menstruation status. The patients with over 15 year survival were mainly from the menstruating and late premenopausal group. During the late 70's some tendencies of the over 15 year survival among the different menstruation status groups begun to appear. The menstruating and late premenopausal group demonstrated better survival compared to postmenopausal women. The dynamic changes observed in these groups (menstruating and late premenopausal) were symmetrical until 1987. Survival among menstruating women increased after 1987 and had average value of 36, 6 % for the period 1987-1992 while it varied reasonably for the premenopausal group, from 40% in 1987 to 18% in 1990. That was an average of 27, 8 % for the period 1987-1992 for the premenopausal group.

The group of menopausal women demonstrated increasing survival during all periods: 15% for the late 70's, 23% for the period 1980-1987 and 38, 6 % for the period 1987-1992, when they appeared to be the largest part of the patients with over 15 year survival after primary treatment of breast cancer. (Fig1)

The size of the primer lesion was a factor that played role in over 15 year survival in breast cancer patients. In our study, in-situ (T0) tumors were 32, 87 %, T1 patients were 14, 74 %, while, surprisingly, T2 were 50, 07% and T3 and T4 only 2, 32 %. Until the 1980's mainly patients with small tumors T0, T1, and T2 patients were likely to survive over 15 years (there were few cases of T3 and T4 that had survived). The change of treatment approach in 1987 did not affect the structure of the group of over 15 year survival. (Fig. 2) Lymph node status was a factor that played role in over 15 year survival in breast cancer patients. Lymph node negative patients N0 were 70, %, while N1 were 21, % and N2 and N3 only 9 %. Until the 1980's mainly N0 patients were likely to survive over 15 years (there were separate cases of N1 and N2 that had survived). The change of treatment approach in 1987 had no influence upon the structure of over 15 year survival group. (Fig.3)

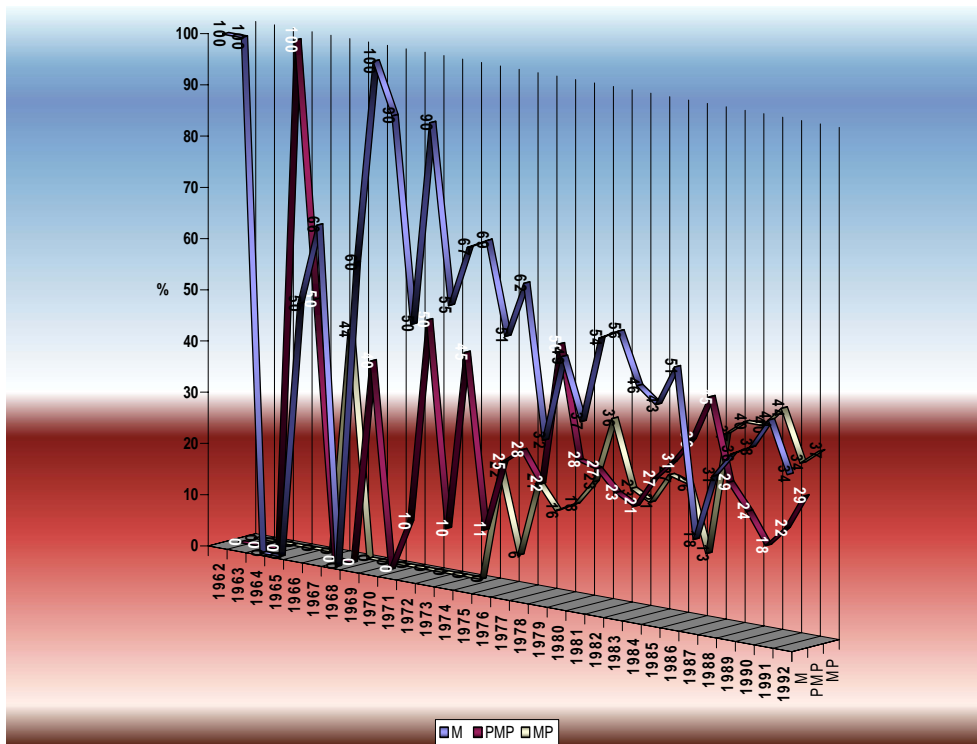


Fig. 1 Part of each menstruation status group in percents: M- Menstruating, PMP- Late premenopausal and MP- Menopausal patients

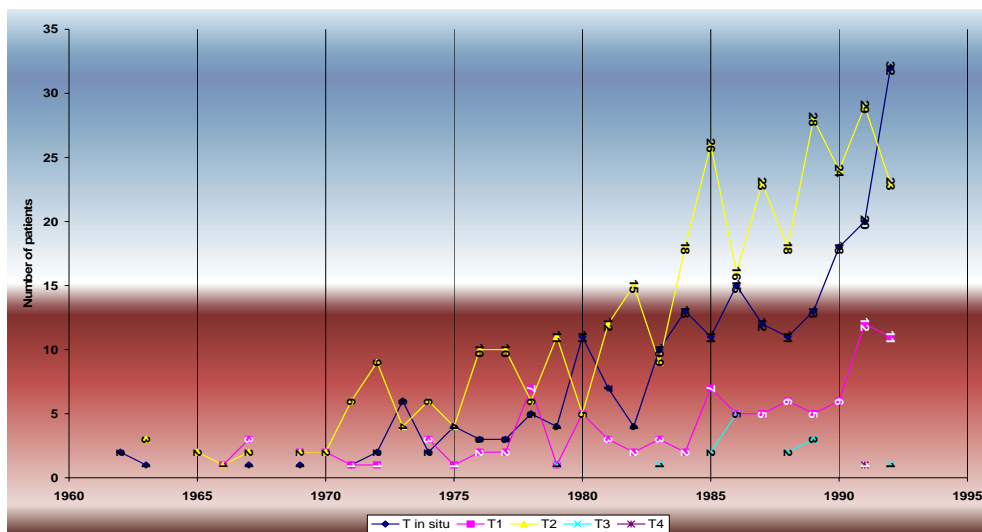


Fig.2 Tendency of the over 15 year survival according to tumor size for the period 1962-1992

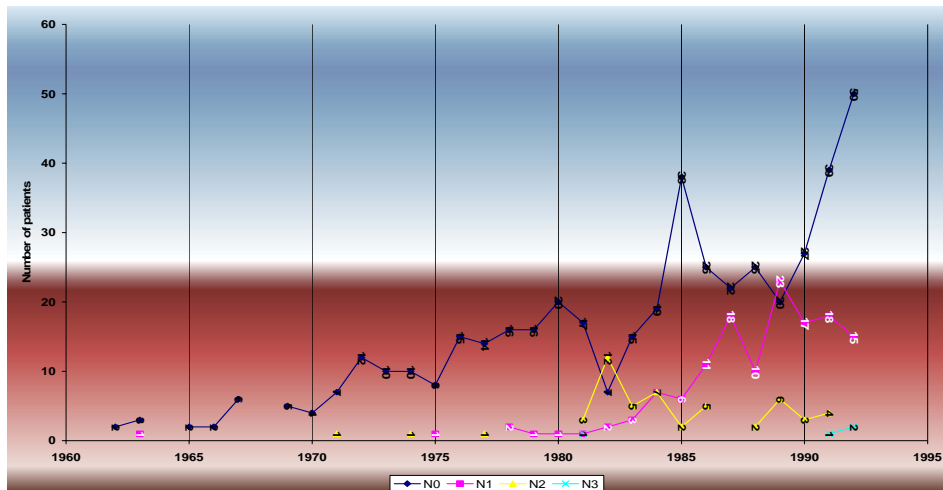


Fig.3 Tendency of the over 15 year survival according to lymph node status for the period 1962-1992

Discussion

The change in therapeutic behavior in breast cancer patients from mastectomy and destruction of the ovaries to mastectomy combined with chemotherapy had distinct impact on survival among all menstruation status groups. This change had almost no impact on the increasing over 15 year survival in menopausal women. That was probably due to the fact that their ovaries were already wasted away. Survival among menstruating women improved probably due to the anti-mitotic effect that chemotherapy had and its impact on the ovarian functions. The estrogen excess frequently observed in premenopausal women, which was not rapidly stopped by castration, could be the factor that affected 15 year survival chance in patients with invasive breast cancer whose ovaries were kept intact. The negative effect that mastectomy combined with chemotherapy had on survival rates among premenopausal women in the beginning of its clinical application, was later replaced by slightly improved survival chance (still lower compared to the other two groups), probably due to improvements in the application and dosage schedule of chemotherapy.

All these facts made us believe that the steroid hormone status of breast cancer patients may affect the over 15 year survival in those patients in general, as well as it affects the risk of breast cancer development (3). Unfortunately we had no data about the estrogen and progesterone receptor status of the tumors, so we were not able to make any certain conclusions.

Most of the patients who survived were with relatively larger tumors (T2). They were twice as much compared to patients with relatively smaller tumors T in situ, T1. This fact was an apparent paradox. It was controversial to data found in literature (4, 5, 6). This was probably due to late diagnoses of breast cancer (7), and as far as we have no data concerning all cases of breast cancer treated in this period and their tumor size we can not make any conclusion. After 1992 the patients with non-invasive tumors had finally become the leading survivor group. This was probably due to the improvement of primary health care rather than improvement of breast cancer treatment. That made us believe that early detection of breast cancer, especially in non-invasive stage, and appropriate treatment is one of the most effective ways to improve over 15 years survival among breast cancer patients in general.

There was one easily noticeable fact – patients with breast tumors larger than 5 cm (T3) and patients with tumors invading the chest wall and skin (T4) were less likely to survive over 15 years.

Data for lymph node status and over 15 years survival corresponded to data found in literature (8, 9), (3/4 of all patients who survived over 15 years were N0).

For the period 1970-1992 there appeared to be groups of “naturally privileged” patients. The optimal chance for over 15 year survival had menopausal women with relatively smaller tumors <5cm (T2) and no metastases in axillary lymph nodes.

Nowadays treatment of breast cancer is even more sophisticated and complex. Surgical treatment is combined with chemotherapy, hormone therapy, herceptin, and anti-angiogenic drugs. Some questions still remain: “Are there “naturally privileged” patients?” Is the group of patients with over 15 year survival composed of equal groups of menstruating, late premenopausal and menopausal patients? Did the improvement of primary health care result in increased over 15 year survival among breast cancer patients?

Conclusion

More detailed study on the preset tendencies in short and long term survival of breast cancer patients is needed to display the up to date efficiency of breast cancer treatment.

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