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Influence of social factors on the quality of life after breast cancer surgical treatment

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Breast conserving surgery or mastectomy are used in early stages of breast cancer treatment. **The aim of the study** was to establish social factor (age, marital status and occupation) influence on the patient's quality of life after mastectomy and breast conserving surgery.

Materials and methods. The quality of life of 62 women with stage I–II of breast cancer treated in the Department of Breast Surgery and Oncology of the Institute of Oncology, 5–6 days after the operation were evaluated by the EORTC QLQ-C30, EORTC QLQ-Br23 and FACT-An questionnaires; also, a questionnaire on the occupation and marital status was used. The quality of life was compared after mastectomy and breast conserving surgery.

Results. In younger women, better results were found after breast conserving surgery than after mastectomy according to the EORTC QLQ-C30 Role functioning scale data ($p = 0.085$). The quality of life of retired women was better after breast conserving surgery than after mastectomy according to the EORTC QLQ-C30 Social functioning scale data ($p = 0.044$). Some results of the FACT-An and EORTC QLQ-C30 showed a better quality of life after mastectomy than after breast conserving surgery in elder, employed and unmarried women ($p < 0.05$).

Conclusions. The patients' quality of life after mastectomy or breast conserving surgery depends on social factors: age, marital status and occupation.

Key words: breast cancer, surgical treatment, quality of life, social factors

INTRODUCTION

Analysis of 27 scientific researches allowed to conclude that the women's psychological vulnerability and adaptation after mastectomy and breast conserving surgery (BCS) differ insignificantly, except the body image, which is better after BCS (1). The possible cause of such similarity is that women after BCS got less support from their families (2). The other possible cause is that standard quality of life questionnaires do not reflect the differences in women's satisfaction with the operation (3). A research from the year 2001 showed that the data of the two most often used questionnaires (EORTC QLQ-C30 and FACT-G) should be interpreted according to the used instrument and the interpretation of the result should be grounded by the content of the detailed points of the questionnaire (4).

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According to the latest literature data, the differences of the psychological adaptation after mastectomy and BCS depend upon the patients' age, occupation and marital status. In 2004, the announced extended research data obtained after interrogating 990 patients after breast cancer surgery showed the influence of age on the quality of life after the operation: the younger patients had the worse emotional and social functioning and a higher level of anxiety about their future (5). In 1999, a research determined a correlation between the patients' age and the life quality dependence upon the volume of the operation. The life quality of the patients under 50 years after mastectomy was worse according to all Medical Outcomes Survey Short Form subscales, except only two. The quality of life of patients under 50 years in all subscales was worse after BCS (6). According to another research daled to 1998, women under 50 years experienced less stress after BCS than after mastectomy. On the contrary, BCS to the women above 50 years was related with a bigger psychological stress (7). A more extended one-year

research carried out in 2000 confirmed a difference of the quality of life after breast cancer surgical treatment depending on the age, education and marital status. The quality of life of younger, single, low-educated women was worse. Mastectomy's influence on the body image was more negative for married women, especially of a younger age (8). According to a prospective study, the women's life with their husbands help them in avoiding the post-operative psychological problems (9).

The aim of the present study was to investigate the way social factors (age, marital status and occupation) influence the differences of the patients' quality of life after mastectomy and BCS.

MATERIALS AND METHODS

Sixty-two women with early breast cancer treated in the Department of Breast Surgery and Oncology in February–August 2004, were included in the study. Patients were examined 5–6 days after the operation. Of them, 24 were after mastectomy and 38 after BCS.

Three questionnaires, EORTC QLQ-C30, EORTC QLQ-Br23 and FACT-An, were used to evaluate their quality of life.

The EORTC QLQ-C30 was based on Global Health Status, Functional and Symptom scales. The functioning was characterized by the scales of physical, role, emotional, cognitive and social functioning. Using the scale, fatigue, nausea and vomiting, pain, dyspnoea, insomnia, appetite loss, constipation, diarrhea and financial difficulties were evaluated. The module Br-23 of EORTC QLQ-C30 was adapted for the examination of breast cancer patients. This module additionally was used in the study to evaluate the body image, sexual functioning, sexual enjoyment, future perspective, systemic therapy side effects, breast symptoms, arm symptoms and upset by loss of hearing. The higher results in the Global Health Status and Functional scales corresponded to a better quality of life, while the higher results in the Symptom scale indicated a worse quality of life.

The FACT questionnaire consisted of questions about patients' physical, social, emotional and functional well -being. The higher results of physical and emotional well-being corresponded to a worse and the higher results of the social and functional well -being corresponded to a better quality of life. The Anemia Subscale of the FACT questionnaire evaluated the patients' fatigue.

The patients' distribution by age, occupation and marital status is presented in the Figs. 1, 2 and 3.

The study compared the quality of life of women aged over 50 and under 50, working and not working, married and single, after mastectomy and BCS.

The program of SPSS for Windows 11.0 was used for the statistical analysis of the results. The difference between the groups was statistically significant. It

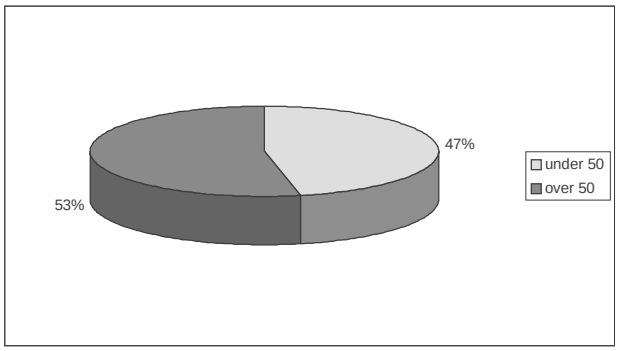

Fig. 1. Patients' distribution by age

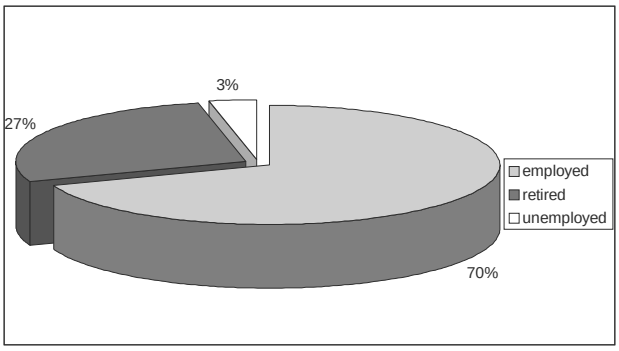

Fig. 2. Patients' distribution by occupation

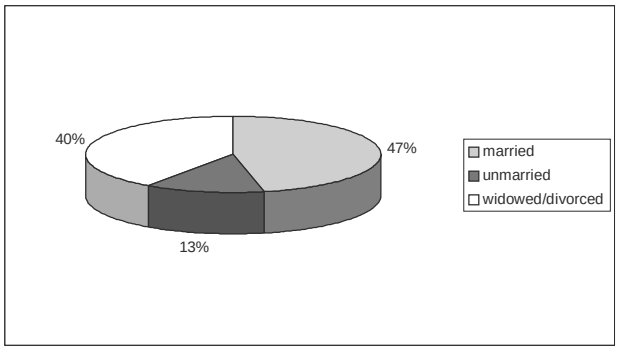

Fig. 3. Patients' distribution by marital status

was verified by the chi-squarecriterion . P = 0.05 was used as the standard of statistical reliability. To compare different groups, the t test was used.

RESULTS

Age

According to the results of FACT-An, no statistically reliable differences were found in the quality of life of women below 50 years after mastectomy and BCS. According to the results of EORTC QLQ-C30, close to statistically reliable was the difference in the role functioning among women below 50 after mastectomy and BCS. A better result was observed after BCS ($p = 0.085$).

Among the women under the age of 50, results in physical ($p = 0.001$) and functional well-being ($p = 0.059$) were better after mastectomy than after BCS according to the data of FACT-An. No statistically

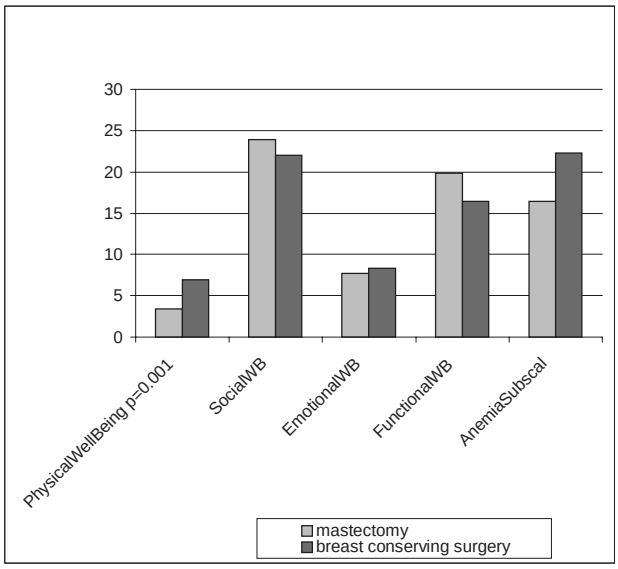

Fig. 4. Comparison of FACT-An results for women over 50 after mastectomy and breast conserving surgery

reliable difference among women after mastectomy and BCS was established in this group of age according to EORTC QLQ-C30 and QLQ-Br23 (Fig. 4).

Occupation

The quality of life of employed, unemployed and retired women after mastectomy and BCS was compared. Among employed women, better physical well-being ($p = 0.02$) and better functional well-being ($p = 0.008$) after mastectomy than after BCS were established according to the data of FACT-An. Also, better results in the same group were established in the Anemia Subscale ($p = 0.037$) (Fig. 5).

No statistically reliable result in the quality of life after mastectomy and BCS was established in the groups of retired and unemployed women according to the FACT-An data.

A better physical functioning after mastectomy than after BCS in the group of employed women was noted according to the data of EORTC QLQ-C30; the difference is close to that statistically reliable, $p = 0.076$. Social functioning of retired women was better after BCS than after mastectomy; the difference is statistically reliable, $p = 0.044$ (Fig. 6).

Marital status

The quality of life of married, unmarried and widowed/divorced women after mastectomy and BCS was compared.

According to the FACT-An data, no statistically reliable difference was established in the quality of life after mastectomy or BCS among married women. In the group of unmarried women, physical well - being was better after mastectomy than after BCS ($p = 0.045$) (Fig. 7).

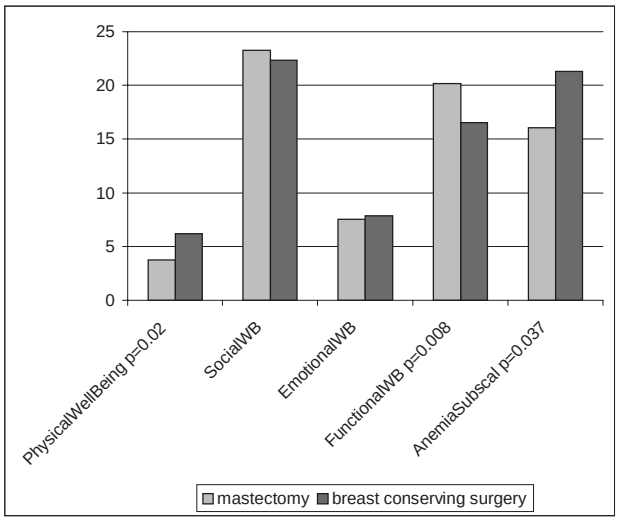

Fig. 5. Comparison of FACT-An results for employed women after mastectomy and breast conserving surgery

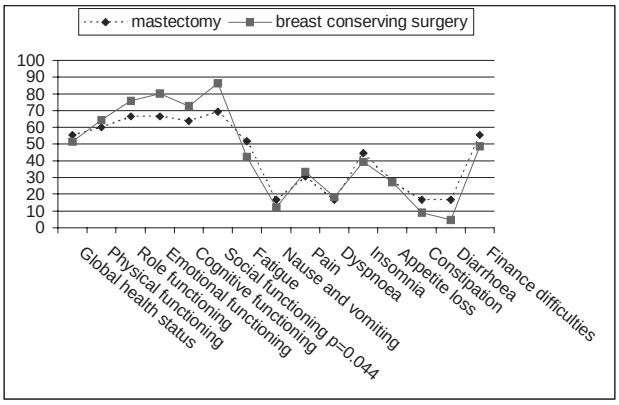

Fig. 6. Comparison of EORTC QLQ-C30 results for retired women after mastectomy and breast conserving surgery

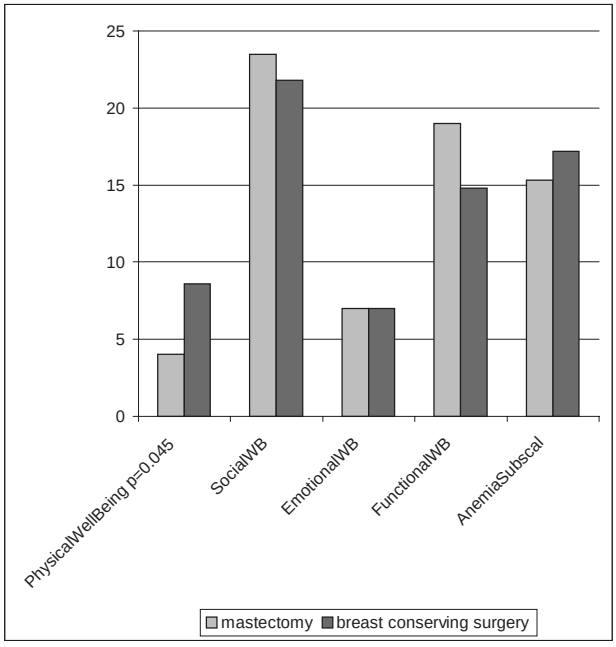

Fig. 7. Comparison of FACT-An results for unmarried women after mastectomy and breast conserving surgery

According to data of EORTC QLQ-C30 and EORTC QLQ-Br23, in the group of married women the quality of life after mastectomy and BCS didn't show a statistically reliable difference, either. In the group of unmarried women, the difference in systemic therapy side effects after mastectomy and BCS was close to statistically reliable ($p = 0.083$) according to the EORTC QLQ-Br23. The result was better after mastectomy.

DISCUSSION

The study finding was that in younger women, the results were better after breast conserving surgery than after mastectomy according to the EORTC QLQ-C30 Role Functioning scale data ($p = 0.085$). Wenzel et al. (10) analyzed data according to age approximating menopausal status (<50, >50) and established that younger women suffered a significantly greater quality of life disturbance after the treatment. After controlling for treatment differences, age-related differences persisted for the overall quality of life, emotional well-being and social well-being.

The quality of life of retired women was better after breast conserving surgery than after mastectomy according to the EORTC QLQ-C30 Social Functioning Scale data ($p = 0.044$).

Some results of the FACT-An and EORTC QLQ-C30 showed a better quality of life after mastectomy than after breast conserving surgery in elder, employed and unmarried women ($p < 0.05$). Mor et al. (11) established that lower levels of emotional well-being were associated with being unmarried and having a high school education or less.

CONCLUSION

Our study has shown that the patients' quality of life after mastectomy or breast conserving surgery depends on social factors: age, marital status and occupation.

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SOCIALINIØ VEIKSNIØ ÁTAKA GYVENIMO KOKYBEI PO KRÛTIES VËÞIO OPERACIJOS

Santrauka

Gydant pradiniø stadijø krûties vëþá, yra atliekama krûtá iðsauganti operacija arba mastektomija. **Šio tyrimo tikslas** buvo nustatyti socialiniø veiksniø (amþius, ðeimyninë padëtis ir uþimtumas) átakà pacienèiø gyvenimo kokybei po krûties paðalinimo (mastektomijos) ir krûtá iðsauganèios operacijos.

Pacientai ir metodai. Tyrimo metu buvo ávertinta 62 moterø, serganèiø I–II stadijos krûties vëþiu ir besigydanèiø Onkologijos instituto Krûtø ligø chirurgijos ir onkologijos skyriuje, gyvenimo kokybë praëjus 6–7 dienoms po operacijos. Taikytas Europos vëþio gydymo ir tyrimo organizacijos gyvenimo kokybës klausimynas (EORTC QLQ-C30*)*, jo modulis, skirtas krûties vëþiui (EORTC QLQ-Br23), taip pat Funkcinio vëþio gydymo ávertinimo klausimynas (FACT-

An) bei anketa apie tiriamøjø uþimtumà ir ðeimyninæ padëtá. Buvo palyginta gyvenimo kokybë po mastektomijos ir krûtá iðsauganèios operacijos.

Rezultatai. EORTC QLQ-C30 Vaidmens funkcionavimo skalës duomenimis, geresnis rezultatas jaunesnio amþiaus moterø gautas po krûtá iðsauganèios operacijos nei po mastektomijos (p = 0,085). Pensininkiø gyvenimo kokybë, EORTC QLQ C30 Socialinio funkcionavimo skalës duomenimis, taip pat geresnë po krûtá iðsauganèios operacijos nei po mastektomijos (p = 0,044). Kai kuriø FACT-An ir EORTC QLQ C30 klausimynø skaliø rezultatai rodo vyresnio amþiaus, dirbanèiø ir netekëjusiø moterø gyvenimo kokybæ esant statistiðkai patikimai (p < 0,05) geresnæ po mastektomijos nei po krûtá iðsauganèios operacijos.

Iðvada. Pacienèiø gyvenimo kokybæ po krûties vëþio chirurginio gydymo – mastektomijos ir krûtá iðsauganèios operacijos – lemia socialiniai veiksniai: amþius, ðeimyninë padëtis ir iðsilavinimas.

Raktaþodþiai: krûties vëþys, chirurginis gydymas, gyvenimo kokybë, socialiniai veiksniai