Structured abstract

Introduction: Breast cancer is the most common malignant disease in women and represents a worldwide problem. By using up-to-date diagnostics methods, mammography screening as well as complex treatment, mortality was substantially reduced. However, the incidence of disease is constantly growing in a moderate way. The struggle against this disease has several levels, such as prevention, primary tumor therapy as well as solution of recurrent disease or generalization of this. Therefore, it is very significant to evaluate prognosis on the basis of biological characteristics of tumor and to determine the right individual therapy in each patient.

Aim of the study: Our aim was to determine a group of patients with malignant breast disease on the basis of biological characteristics of the tumor axillary exenteration might be omitted in if there is the presence of sentinel lymph node metastasis, which can reduce morbidity connected with this surgery without worsening prognosis.

Group and methodology: The research project lasted from June 2012 to June 2015. It was an introspective randomized study where the main investigated group was made up of women with primarily surgically treated mammary cancer who underwent sentinel lymph node biopsy (SNB) within surgery. These were divided into three groups: the first group – SNB was positive without finished axillary exenteration (axillary dissection - AD), the second group - SNB was positive with finished AD, the third group – SNB was negative. The fourth group was made up of patients with primarily performed AD and the fifth group involved patients with benign breast disease.

We investigated statistically significant prognostic factors of metastatic lymph nodes and early disease progression. Results were statictically processed and differences between individual groups were evaluated, prognostically usable biological characteristics of tumor were determined in connection with metastases in lymph nodes and survival without disease progression.

Results: The study included 214 patients with breast cancer. In 136 patients (64%), there were no metastases of axillary lypmh nodes, nevertheless, 78 patients (36%) were found out positive axillary lymph nodes in, 28 (13%) of those had a micrometastasis in the sentinel lymph node, 38 (17%) had 1-3 positive lymph nodes, 4-9 positive lymph nodes could be

found in 8 of these (4%) and more than 10 metastatic lymph nodes were found in 4 patients (2%). The statistically significant difference between metastatic lymph nodes was found out in tumor size, expression of estrogen receptors, proliferative activity and grading.

Conclusion: Here are following prognostic factors of metastatic lymph nodes and early disease progression which appear to be staticially significant: tumor size over 2 cm, negative expression of estrogen receptors, tumors with middle and high proliferative activity and tumor grade G2 and G3. In the course of three years of this study, there was no regional recurrence in axillary lymph nodes in any cases, Therefore, it is obvious that finishing of axillary exenteration might be omitted in case of tumors smaller than 2 cm, expression of estrogen receptors, low proliferative activity and grade if there is one or two positive sentinel lymph nodes and adjuvant radiation therapy can be used. Axillary exenteration does not have to be supplemented in case of isolated tumor cells in sentinel lymph nodes, either.

Key words: breast cancer – sentinel lymph node biopsy – axillary exenteration – prognostic factors – survival without progression – overall survival – dispensarization