



Clinical Aspects of Treatment of Breast Cancer Patients with Metastatic Lymph Nodes Injury

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Abstract : It is generally accepted that one of the most significant prognostic factors determining the outcome of the disease is the presence of tumor metastases in regional lymph nodes. Despite the fact that the assessment of the true extent of the process at the stage of clinical diagnosis is extremely important for determining the appropriate treatment tactics, standard research methods do not always allow to reliably assess the possible metastatic lesion of the lymphatic collectors. The only reliable and significant method for diagnosing lymphogenous metastasis is a morphological examination of lymph nodes, since modern research methods (echography, computed and magnetic resonance imaging, radionuclide diagnostics) cannot give a clear answer about the presence or absence of metastases in the lymph nodes.

Regional lymphogenous metastasis is possible in the axillary, subscapularis, subclavian, parasternal and supraclavicular lymph nodes. If the first three groups of lymph nodes are necessarily removed during standard operations, parasternal - with medial and central tumor localizations, then the tactics in relation to the last group of lymph nodes is still unresolved

However, the very fact of the presence of ipsilateral metastasis of breast cancer in the supraclavicular region is a sign of a locally advanced form of cancer. The need for local treatment - surgery and radiation therapy - is due to the fact that locally advanced breast cancer is not only a systemic disease, the disease has a pronounced ability to local (locoregional) recurrence.

Key words : metastasis, ipsilateral supraclavicular lymph nodes, locally advanced breast cancer, locoregional recurrence.

If earlier, to improve the results of treatment of patients with ipsilateral supraclavicular metastases, it was proposed only to expand the volume of lymphatic dissection, then new methods of treatment (chemotherapy and hormone therapy) that appeared later, having become a priority from the position of the systemic nature of breast cancer, supplemented the methods of local treatment and made it possible to consider this group of patients as "promising", with relatively good long-term survival rates.

Modern diagnostic methods and the results of treatment of patients with breast cancer indicate that, as before, an important factor that largely determines the prognosis is the state of the regional lymph nodes. This is especially true for patients with locally advanced forms of breast cancer, since such proliferation of tumor cells significantly impairs disease-free and overall survival. Operations for malignant tumors of various localization involve the removal of all or part of the affected organ and tissue with lymph nodes in the areas of regional metastasis. At the same time, along with achieving the immediate goals of oncological radicalism, performing lymphatic dissection makes it possible to clarify the stage of the disease. And this, in turn, is one of the main criteria for the prognosis and planning of additional treatment.

Lymphogenous metastasis in breast cancer is possible in the axillary, subscapularis, subclavian, parasternal and supraclavicular lymph nodes. If the first three groups of lymph nodes are necessarily removed in standard radical operations, and parasternal in many clinics - with medial and central localizations of the tumor, then the tactics in relation to the supraclavicular group of lymph nodes is still controversial. And this, to a greater extent, is dictated by the change in trends in the surgical treatment of breast cancer: avoiding superradical interventions due to their trauma to organ-preserving operations. The existing dispute is fueled by the fact that, due to anatomical features, the defeat of the supraclavicular lymph nodes can be the result of retrograde metastasis, being a sign of the generalization of the process.

At the same time, a number of problems that reduce the effectiveness of treatment and the quality of life of patients remain unresolved. Thus, the most informative, economical and accessible research method has not been determined. Despite the long experience of using various diagnostic methods, there is no clear X-ray sonographic semiotics of various conditions of an enlarged lymph node. The variety of existing research methods is sometimes irrationally used due to the lack of an optimal survey algorithm. This, in turn, creates certain problems in assessing the prognosis of life and treatment of patients with suspected metastases in the supraclavicular region.

Purpose of the study. Improving the results of treatment of patients with metastases to the ipsilateral supraclavicular lymph nodes.

Material and methods. We analyzed the results of 79 cases of performing prescaled lymphatic dissection in the mammological department of the THF RSNPMCOR in the period from 2015 to 2020. A group of 39 patients with ipsilateral supraclavicular metastases in nodular breast cancer was identified.

Results. In some patients (14 patients - 17.72%) who underwent prescaled lymphatic dissection, the removed specimen did not confirm the presence of metastases in the removed specimen during pathomorphological examination. The indication for surgery, despite the negative result of the cytological conclusion, was the suspicion of a lesion of the supraclavicular collector according to the data of clinical and / or ultrasound studies. At the same time, out of 21 patients with a similar negative cytological picture, in 7 during the postoperative histological examination the presence of metastases was confirmed, in 14 - the supraclavicular collector was intact.

Taking into account the traumatic nature of prescaled lymphatic dissection, the risk of postoperative lymphostasis of the upper limb (due to blockade of lymph flow below the subclavian vein after axillary lymphatic dissection and higher after supraclavicular lymphatic dissection), this surgical

intervention should be performed only after mandatory cytological verification of malignant growth in the supraclavicular manifold. In case of insufficient information content of the cytological study, it is necessary to perform a biopsy of the supraclavicular lymph node suspected of metastasis - for subsequent histological examination. Morphological verification of a tumor lesion will be an indication for surgical intervention in the amount of prescaled lymphatic dissection.

According to the pathomorphological findings, 65 patients (82.28%) had histologically confirmed metastases in the lymph nodes of the supraclavicular region. At the same time, during surgery on the supraclavicular lymphatic collector, from 2 to 16 lymph nodes were removed (on average 5.92 ± 0.65), of which from 1 to 16 (on average 4.81 ± 0.69) lymph nodes were affected by metastases.

An analysis of the results obtained allowed us to single out a group of 51 patients with lesions of the ipsilateral supraclavicular collector, who, it would seem, justified performing prescaled lymphatic dissection.

However, upon a detailed study of this group of 51 patients, we noticed that some of the patients (12 people - 23.5%) had primary - or secondary - infiltrative forms of breast tumors. The survival rate in this subgroup is low: 1 year old - $70 \pm 4.32\%$, 2 years old - $52.5 \pm 4.7\%$, 3 years old - $52.5 \pm 4.7\%$, and four and five years old are equal to zero. In patients with similar metastases, but the nodular form of the primary tumor, the indicators are respectively: 1 year survival rate - $72.2 \pm 4.54\%$, 2 years old - $61.9 \pm 4.73\%$, 3 years old - $54.6 \pm 4.87\%$, 4 years old - $54.6 \pm 4.87\%$, and 5 years old is $40.4 \pm 3.83\%$.

We assessed the immunohistochemical status of patients with lesions of the ipsilateral supraclavicular lymph nodes. In the course of our study of immunohistochemical markers among patients with N with metastases, it was revealed that the proportion of patients with the expression of estrogen receptors is $65.2 \pm 10.2\%$ in the nodular form of the tumor and $60 \pm 16.3\%$ in the infiltrative, $p > 0.05$... The results were also obtained when assessing the expression of progesterone receptors: $43.5 \pm 10.6\%$ in the nodular form of the tumor and $50 \pm 16.7\%$ in the infiltrative, $p > 0.05$.

Thus, patients with nodal and infiltrative forms are comparable in terms of the expression of sex hormone receptors. A different situation can be traced in the study of HER2 / neu overexpression in the studied groups of patients. There is a statistically significant more than 2-fold excess in the proportion of patients with HER2 / neu overexpression in infiltrative tumors (20%) in comparison with nodular (8.7%), ($p < 0.01$).

Summarizing the above, it can be noted that the form (nodular or infiltrative) of the primary tumor has a great prognostic value for the long-term survival of patients with ipsilateral supraclavicular metastases of breast cancer. Taking into account the results obtained, we consider it inappropriate to perform prescaled lymphatic dissection in patients with N3 metastases with an infiltrative form of breast tumor.

Since the need for surgical treatment of patients with N3 metastases is not questioned, we consider it correct to supplement the combined and complex therapy in patients with ipsilateral supraclavicular metastases of breast cancer with a nodular tumor by performing prescaled lymphatic dissection, since this group also belongs to stage IIIC and has similar results for long-term 5- summer survival ($p > 0.05$).

Summarizing all of the above, it should be noted that many recent advances in medical science and, first of all, oncology make each patient diagnosed with breast cancer with their own criteria, a set of individual immunohistochemical markers. And in these conditions, an attempt to individualize therapy for each individual patient in order to optimize the quality of his life becomes more and more urgent. At the same time, despite the improvement of existing methods of systemic drug exposure, as before, one of the main ones remains surgical intervention - with the removal of the tumor and regional

lymphatic collectors. With this in mind, for patients with ipsilateral supraclavicular metastases and nodular breast cancer, we determined the volume of prescaled lymphatic dissection in the form of a partial cervical lymphatic dissection with mandatory preliminary videothoracoscopic parasternal lymphadenectomy after morphological verification of metastases in the supraclavicular collector. Computed tomography and magnetic resonance imaging were introduced into the algorithm for further examination of candidates for this surgical intervention to exclude damage to the mediastinum.

Conclusions. Prescaled lymphatic dissection is indicated for patients with verified ipsilateral supraclavicular metastases of breast cancer with a nodular form of the tumor. Precalculated lymphatic dissection is advisable in the volume of partial cervical lymphatic dissection due to the absence of clear boundaries between the lymph nodes of the lateral triangle of the neck and the resulting relapses (15.38%) after economical excision of the supraclavicular lymph nodes. The main immunohistochemical tumor markers in patients with ipsilateral supraclavicular metastases of breast cancer with nodular and infiltrative tumor forms are comparable in expression of sex hormone receptors ($p > 0.05$), however, a significant excess of HER2 / neu expression was shown in infiltrative tumors (20%) in comparison with the nodal (8.7%), ($p < 0.01$).

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