Value of endoscopic procedure for diagnostics and treatment of metastatic breast cancer

Vereshchako R., Zavertylenko S., Piskorskiy A., Batsey I.

Breast cancer is a tumor with high metastatic potential. Success of the breast cancer treatment depends not only on molecular and biological characteristics of the tumor but also on the stage of the tumor. It's extremely important to detect metastatic lesions when they are asymptomatic, and to perform correct follow up. At the same time any focal changes can be caused either by tumor, or inflammation. According to the literature own experience pleural effusion may be the manifestation sign of metastatic breast cancer. Cytological examination of pleural effusion doesn't always satisfy oncologists' diagnostic needs because of the high rate of false negative results and lack of opportunities for additional histological and immunohistochemical tumor examination. In this clinical setting thoracoscopy and mediastinoscopy may provide valuable diagnostic input.

Materials and methods.
From January 2014 to December 2015 we performed 18 thoracoscopies with pleural biopsy and 5 mediastinoscopies with lymph node biopsy in 23 patients with breast cancer at the department of thoracic surgery at the National Medical University. Indications for thoracoscopy and pleural biopsy were pleural effusion established by X-ray, ultrasonography or computed tomography of the chest. Among them 3 patients had newly diagnosed breast cancer with pleural effusion, and 15 patients had breast cancer treated, but presented with pleural effusion. Cervical mediastinoscopy was performed in patients who had serum CA-15-3 increased 1.5-3 times above the norm, but had no pathological changes detected on X-ray, ultrasonography, computed tomography of the chest. There was focal accumulation of radiopharmaceutical in mediastinal lymph nodes on PET-CT.

Results
Thoracoscopy. Among patients with primary breast cancer 2 (66%) had metastatic pleural effusion. Among 15 patients with pleural effusion after breast cancer treated, 12 (80%) have metastatic pleural effusion.

Mediastinoscopy. Pathology in 3 patients revealed metastases to lymph nodes, and systemic anticancer therapy was initiated. Other changes in removed lymph nodes included anthracosis and nonspecific inflammation. One patient had increased tumor marker due to rheumatism. One had postradiology pneumonitis of high grade. Following endoscopy all patients received treatment according to their basic diagnosis and comorbidity.

Conclusions. The biopsy of the parietal pleura and lymph nodes, which can be done during thoracoscopy and cervical mediastinoscopy is important diagnostic tool, which allows to exclude or confirm metastatic lesion. This provides additional benefits for further treatment and it also prevents ungrounded medicine prescription for patients without recurrency of breast cancer.

1, 2, 3 - metastatic pleural effusion
4 - mediastinal lymph nodes
5 - thoracic lymphatic nodes map