

Экспериментальные исследования, онкоморфология

Cytological diagnosis of Hodgkin's lymphoma based on fiber-optic bronchoscopy material

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Summary. To submit by rarely occurring defeat bronchus diagnosed by Hodgkin's lymphoma after cytological studying fibrobronchial material from a child of 13 years old. The diagnosis is confirmed by histological study of supraclavicular lymph node. Compelling cytological results of Hodgkin Lymphoma inside of bronchial epithelium are definitely presented on micrographs.

Key words. material of fibrobronchoscopy, cytological diagnostics, Hodgkin lymphoma.

Cytological and histological features of classical Hodgkin's lymphoma (HL) and all of its morphological variants according to the International histological classification [6] are well described in numerous relevant monographs and articles [1-5]. Clinical cytologists are well aware of cytomorphological signs of the foreground and background of a cell, on which diagnosis of Hodgkin's lymphoma is based. Usually the referred nosological form develops in the lymph nodes. The most common sites of LH are the cervical, axillary, inguinal and thoracic lymph nodes.

Subcutaneous lymph nodes are usually of tightly-elastic consistency, accessible to palpation and puncture in obtaining diagnostic material for cytological verification of the pathological process. It is particularly difficult to diagnose Hodgkin when pathological process is localized outside the lymph nodes. Difficulties in diagnosis of Hodgkin's lymphoma occur when the disease is clinically revealed with atypical symptoms, as is the case in the monitoring of our practice.

This article reports about a case of 13 year old girl, whose sickness onset manifested pulmonary symptoms. The child had cough, fever up to 38 degrees, and there was a loss in weight. According to the residence records, the girl had a clinical diagnosis of “Primary tuberculosis complex of the right lung lymphadenopathy of unknown etiology”, and was taken to the TB dispensary, where she took a course of specific therapy after the examination to from 12.11.12 to 08.01.13. Computed tomography (CT) scanned of 16.11.2012 by standard program of 5mm increments tomography without contrast enhancement revealed two spots of 1.0 cm size in diameter (d) (18-26 u H in the third segment of the right lung), in the fifth segment of the right lung there were determined two focuses 1.4 cm size in d (16-51 units. H) and 1.2 cm size in d (224 u H), in the sixth segment of the right lung - two centers 1.2 cm size and 1.1 cm size in d (373-122 ed.N). Lumens of trachea and bronchi were traced at all levels of monitoring. Increased bronchopulmonary lymph nodes were revealed 1.5 cm size on the right side and 1.8 cm size on the left. The pleuron was not thickened. The interpleural space appeared without changes. Conclusion: CT picture of focal tuberculosis of the right lung.

Based on blood features in four studies there was a high leukocyte sedimentation rate from 35 to 49 mm, singl eosinophils diagnosed were from 1 to 7. Other parameters had normal limits. Biochemical studies were without any deviation from the norm. After oncologist consultation the sharp right-sided supraclavicular adenopathy was found and hematological examination recommended. The right supraclavicular lymph node excision biopsy was performed to verify the pathological process. Histopathological conclusion № 46577-78 dated 20.12.2012 - lymphadenitis. Consultation of the histological material at regional oncologic dispensary 28.12.2012 stated that the specimens were of low quality and it was impossible to carry out any conclusions.

The treatment conducted at the tuberculosis clinic was not effective. The patient was sent for additional examination. She passed the bronchoscopy (FBS) 04.01.2013 which revealed that the mucous membrane of the trachea and bronchi

was pink, the Karina was expanded. Bronchial lumen is narrowed; the relief of the mucous membrane is flattened. Right bronchus (B3) is totally narrowed by additional tissue compression. The bronchi visible on the left side are normal. Conclusion: Central right cancer B3.

Cytology material obtained by FBS dated 04.01.2013 carried out by a cytologist at the place of residence revealed columnar epithelial cells with the evidence of proliferation, degeneration elements, "naked" nuclei, cells with signs of viral infection, as well as large cells, suspicious for a malignant tumor elements. The patient was directed to consult with the National Cancer Institute.

In consultation of cytological preparations obtained by fiberoptic method and stained by Romanovsky, the motley cellular composition was determined (fig. 1, 4). The columnar epithelial cells with intact cilia have been found, as well as intercalated cells with narrow hyperchromatic nucleus, basal epithelium with degenerative changes, clusters of neutrophils, including frequent eosinophil's were detected. Lymphoid elements with lysed cytoplasm were determined, there were especially notable large mononuclear Hodgkin cells with destroyed cytoplasm, loose chromatin structure and large, most single nucleolus.

Notably large multinucleate diagnostic Berezovsky-Stenberg cells were of significant importance. The part of them had preserved basophilic cytoplasm and large round nuclei with a typical blade loosened irregular chromatin structure. The last showed large multiple nucleoli of various forms. Not quite typical multinucleated cells with lysed cytoplasm and a large number of light overlapping nuclei were determined. In addition, significant irregular chromatin structure and large nucleoli persisted. Moreover, some connective cells were detected. The described variegated cellular structure with the presence of the background components and the main Hodgkin's and Berezovsky-Sternberg diagnostic cells left no doubt in the diagnosis of Hodgkin's lymphoma.

The consultation of histologic specimens (№ 46577-78/2012) of supraclavicular lymph node was performed in the institute that helped to confirm the diagnosis of LH.

Thus, unusual manifestation of Hodgkin's lymphoma with clinical symptoms in a child which is more specific for lung disease has led to the incorrect diagnosis of the primary exposed tuberculosis complex of the right lung, where specific therapy proved ineffective. A consultation with an oncologist at the place of residence was diagnosed with lymphadenitis.

The fibrobronchoscopy made possible to reveal changes in the bronchi assuming the lung cancer subsequently. And only the cytology smears from bronchial enabled to suspect the malignancy. Afterwards the child was sent for the consultation at the National Cancer Institute, where Hodgkin's lymphoma was found by the material of FBS and cytological confirmed by histological examination of submitted specimens of the supraclavicular lymph node.

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Fig.1. Hodgkin lymphoma. Bronchoscopy material.
Columnar epithelial cells, neutrophils and eosinophils,
multinucleate Berezovsky-Stenberg cells. Stained by Romanovsky.
x 1000

Fig.2. Hodgkin lymphoma. Bronchoscopy material. Berezovsky-Stenberg cells
with lysed cytoplasm, neutrophils and eosinophils after death. Stained by
Romanovsky.
x 1000

Fig.3 Hodgkin lymphoma. Bronchoscopy material. Columnar epithelial cells,
lymphocyte, eosinophile, Berezovsky-Stenberg cells
with lysed cytoplasm. Stained by Romanovsky.
x 1000

Fig.4 Hodgkin lymphoma. Bronchoscopy material. Columnar epithelial cells, with
intact cilia, neutrophils and eosinophils, Berezovsky-Stenberg cells. Stained by
Romanovsky.
x 1000