

# MICROBIOLOGICAL CHARACTERISTICS OF OPPORTUNISTIC INFECTIONS IN PATIENTS WITH LYMPHO-PROLIFERATIVE DISEASES

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## OBJECTIVE:

to assess the degree of contamination by opportunistic infections in lymphoproliferative diseases.

## MATERIAL AND METHODS

The post evaluation analysis of 230 patient records diagnosed with lymphoproliferative diseases has been carried out, 74 patients of which are with Hodgkin's lymphoma (HL), 87 with non-Hodgkin's lymphoma (NHL), 39 with erythroid myeloma (EM) and 30 with chronic lymphatic leukemia (CLL). All patients underwent the standard examination, which was necessary for diagnosing according to current demands. The morphological and clinical variant of the core process course was determined on the results of the indicated examination. The patients were given the initiating therapy, and then the course of chemotherapy. Manifestations of OI were assessed on all treatment stages with the help of clinical, laboratory-based and microbiologic methods for the determination of manifestation infection fact and its agent.

## RESULTS

On the whole OI agents structure was commensurable in all four groups of patients with different types of lymphoproliferative diseases. The leading position went to mycology and "mixed infection", the next was virus infection and the last were the infections, induced by bacteria in all the groups.

The maximum frequency of mycotic infection was presented in the patients with lymphoma (52% with HL and 51,1% with NHL). This index was statistically-valid higher as compared to the results in the patients with EM – 35,0% and CLL – 25,2%. In the OI structure, induced by mycology, the agents of *Candida* spp group predominated with the different forms of hamoblasto-

sis. They are identified in 62,7% of cases and *Aspergillus* in 37,3%. Most of the patients had infectious complications of mycotic character in the form of mucositis with the predominant digestive system (77,9%) and respiratory system (12,2%) involvement. 16 strains of aspergillosis were identified as a part of the mycological examination of the orinasaal pharynx biological material. In the vast majority of cases *A.fumigatus* was identified in 32,43% of them in the expressed fungi strains. *A.flavus* was expressed in 5,4% of cases.

The application of the up-to-date methods in diagnostics and examination allowed determining the extension of the infection, induced by viral etiology. The incidence of viral infections in patients with the different characters of lymphoproliferative diseases was not statistically different and was as follows: 21,0% with EM, 22,1% with CLL, 23,3% with NHL and 24,1% with HL.

In the agents of viral etiology the leading position in incidence went to cytomegalovirus infection (CMV) – 19,6% of the total number of OI manifestations in the patients with chronic lymphoproliferative diseases and 72,4% of the total amount of OI with viral etiology. In 4,0% CMV infection had generalized character. Herpetic infection, induced by Herpes simplex, was in 4,9% of cases.

Bacterial infections in the structure of all infectious complications took the last place. Bacterial infection was more often associated with CLL in 29,5% of cases. The lowest frequency of bacterial infections was found in the patients with NHL – in 13,5% of cases. In the whole the patients with lymphoma (HL and NHL) showed less affinity to bacterial infections, then the patients with EM and CLL.

The infections were more often determined, induced by the following bacteria: *Streptococcus* (19,39%), *Staphylococcus* (24,49%), *Enterococcus* (7,14%), *Pseudomonas* (4,60%), *Klebsiella* (9,18%), *Escherichia* (2,04%), *Acinetobacter* (1,02%); and also such enterobacteria as *Enterococcus* spp. (8,16%) and *Pseudomonas* spp. (4,76%).

## CONCLUSION

1. The most common OI is fungal infection, the most expressed pathogen of which is yeast fungi *Candida*. *Candida* infection in the patients with lymphoproliferative diseases reaches to 52%. These patients are in the high-risk group. Received data are consistent with literature data.

2. The identification of OI agent is the important fact in the effective treatment of hemoblastosis infectious complication in order to increase survival capability of oncohematological patients and improve their quality of life.