

# Abstract Submission

29. *Infectious diseases, supportive care*

EHA-1074

## INNOVATIVE APPROACHES TO TREATING INFECTIONS OF THE LOWER RESPIRATORY TRACT ON BACKGROUND ACUTE LEUKEMIA

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**Please indicate all of which apply to the presenting author: MD**

**Background:** Pathogenetic basis of acute leukemia (AL) is a defect of cellular and humoral immunity, manifested a change quantitative and morphological and functional parameters of the immune system. Violations of immunity in patients with AL and also due to methods of treating the disease, corticosteroids inhibit the multiplication of T lymphocytes, stimulate apoptosis, provoking the death of lymphocytes in the thymus, inhibit complement-induced aggregation of granulocytes, macrophages and inhibit immunoglobulin's formation. [D. M. Pardoll, S. L. Topalian, 1998.]. Cytostatics characterized immunosuppressive effect. In this regard, AL patients, especially during the treatment program is at risk of developing pneumonia, the frequency of which ranges from 20% to 50% and is characterized by high mortality. In acute lymphoblastic leukemia (ALL), the figure is 30-45%, and in acute myeloid leukemia (AML) - 40 - 90%. [Glauser M. P., 2000; Abdulkadirov K. M, 2005].

In modern research clearly demonstrated the ability to correct parameters of immunity in patients with HL against the background of the use of immunomodulators [Kozhemyakin LA, MI Perelman, 2002; Pardoll D. M., 1998.]. Consistent and justified by pathogenesis seems to explore the possibility of using immunomodulators for the treatment of pneumonia in patients on the background AL.

Glutoxim - chemically synthesized biologically active substance of a new class of drugs - tiopoetyniv has high tropism for immune cells to the formation of cytoprotective mechanisms.

**Aims:** To investigate the clinical efficacy of the drug Glutoxim use in the treatment of lower respiratory tract infections in patients with acute leukemia.

**Methods:** The study group made 109 patients with pneumonia who received treatment program at the hematology center SE "Dnipropetrovsk Multiprofile Clinical Hospital № 4 DOR" in 2015. Age of patients - 23 - 56 years, 41 men and 69 women; with ALL - 47 of AML - 64. The diagnosis of AL and lower respiratory tract infections verified in accordance with generally accepted clinical and morphological criteria. [WHO, classification of tumours, 2008; Clinical management. (ESCMID), 2006; Gusev SA, 2004]. The investigation of immunogram indicators in dynamics: SD3, CD4, SD8, SD16, SD20, JgA, JgM, JgG. In the treatment of the main group (51 patients) included Glutoxim 2 ml of 3% once a day, intravenously, №20.

**Results:** Glutoxim well tolerated by patients from main group, not noted any side effects. Immunogram's dynamics belonging to the main group patients characterized probable ( $p \leq 0,05$ ), compared with the control group, normalization of T lymphocytes (CD3 +, CD7 + and subpopulations of CD4 +, CD16 +, CD25 +, CD4 + / CD8 +). In the main group clinical signs of using of Glutoxim characterized by a more pronounced pace of normalization of body temperature and a decrease infiltration in the lungs, faster recovery performance pattern of peripheral blood and a small number of cases necessary modifications antibiotics therapy (4 cases vs. 11 in the control group).

**Summary/Conclusion:** The using of Glutoxim promotes to normalize basic quantitative and functional parameters of T - cellular immunity in patients with infections of the lower respiratory tract on the background AL. Therefore, the drug can be used to improve the treatment of lower respiratory tract infections on the background AL.

**Keywords:** Acute leukemia, Immune deficiency, Pulmonary, Treatment