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P1553 RISK-ADAPTED IMMUNOGLOBULIN REPLACEMENT THERAPY IN PATIENTS WITH ACUTE LEUKEMIA: CLINICAL EVALUATION FOR INFECTIOUS COMPLICATIONS.

Topic: 30. Infections in hematology (incl. supportive care/therapy)

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Background:

In patients with oncohematological diseases receiving chemotherapy (CT), there is a high incidence of infections, the profile of which is influenced by various factors, including neutropenia. The clinical effect of immunoglobulin replacement therapy on the risk of infectious complications in adult hematological patients currently needs to be evaluated and revised.

Aims:

The aim of this prospective study in real clinical practice was to evaluate the independent effect of immunoglobulin replacement therapy on the risk of developing infectious complications in patients with acute leukemia at the stages of intensive care.

Methods:

The prospective study (2022) included 40 adult patients diagnosed with acute leukemia who received the induction stage of therapy: 25 patients with AML, 2 patients with a mixed-cell variant with myeloid predominance, 4 patients with AML with changes associated with myelodysplasia, 9 patients with ALL. In the study sample, 27 patients received an induction course of polychemotherapy with high doses ("7+3", FLAG-Ida, Hyper-CVAD/HMA), 13 received courses with standard doses of chemotherapy drugs ("7+3", CALGB, ALL-2009). In the test group, patients received human immunoglobulin in accordance with the developed algorithm; in the control group, immunoglobulin was not used. The following statistical methods were used in the study: time-dependent Kaplan-Meier analysis with a log-rank test, non-parametric methods for assessing differences in groups (odds ratio). The analysis assessed the number of patients needed to achieve an additional positive outcome, as well as 120-day infection-free survival. Differences were considered statistically significant if the probability of an error-free prediction was 95% ($p \leq 0.05$).

Results:

Among total study subjects, 19 patients experienced infectious episodes during cytopenia. The probability of developing an infectious episode in patients with acute leukemia receiving specific treatment (induction course of polychemotherapy) is statistically significantly lower in the group of patients receiving immunoglobulin replacement therapy compared to the control group without administration of human immunoglobulin (5 versus 14; $p = 0.00724$).The median duration of the period without infectious complications in the group of patients who received immunoglobulins against the background of specific therapy for the underlying disease was 105 days (95% CI 88-120 days), while in the control group it was 75 days (95% CI 59-109 days) (Figure1).

Summary/Conclusion:

Immunoglobulin replacement therapy in patients with acute leukemia statistically significant affects the duration of the infection-free period of the disease against the background of specific therapy for the underlying disease, which improves the event-free survival and quality of life of patients. Immunoglobulin replacement therapy can be used in

patients at high risk of infectious complications, given the levels of hypogammaglobulinemia, as well as clinical dynamics. The clinical effect can be assessed within 3 months from the start of replacement therapy.

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