

# Relationship between the expression of CD69 on the surface of lymphocytes T and B from peripheral blood and bone marrow of patients with chronic lymphocytic leukemia and selected prognostic factors

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## Summary

**Background.** *Chronic lymphocytic leukemia — CLL is a monoclonal B-cell lymphocytosis most commonly diagnosed in adults. The commonly known prognostic factors of this leukemia are: clinical stage according to the Rai or Bineta scale, lymphocytosis doubling time (LDT), thymidine kinase level and  $\beta$ 2-microglobulin. The new prognostic markers of CLL are still being sought. The aim of the study was to assess the percentage and absolute number of activated B and T lymphocytes of peripheral blood and bone marrow of CLL patients and the correlation between lymphocytes expressing the CD69 marker and selected prognostic factors of CLL.*

**Material and methods.** *The study comprised 150 persons; 120 untreated patients with CLL and 30 healthy people as control. Peripheral blood was collected from control patients to assess the immunophenotype of lymphocytes. CLL diagnosis was based on clinical examination, morphology and immunophenotype of peripheral blood lymphocytes and bone marrow examination. Mononuclear cells were isolated from blood and bone marrow to evaluate the immunophenotype using cytometric method.*

**Results.** *CLL patients had a higher absolute count of B and T lymphocytes expressing the CD69 antigen as compared to healthy subjects. Evaluation of the percentage of CD19 + B cell peripheral blood and bone marrow expressing the early marker of CD69 activation showed association with the Rai stage. A negative correlation was demonstrated between the percentage of CD3 + CD69 + T cells in peripheral blood and lymphocyte doubling time. Patients with lymphocyte doubling time had a higher percentage of CD3 + CD69 + T cells. It has been demonstrated that a higher percentage of CD19 + CD69 + lymphocytes appeared when therapy was administered due to rapid progress of the disease as compare to untreated cases.*

**Conclusions.** *Assessment of the number of T and B lymphocytes expressing the CD69 antigen is a valuable support for the cytometric diagnosis of CLL. Apart from the already known prognostic factors, patients should be assessed for the number of activated lymphocytes, thus the clinical picture of the patient will be more complete.*

**Key words:** chronic lymphocytic leukemia, CD69 antigen, prognostic factors

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## Conflict of interest

None declared.

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