



A PREDICTIVE INSTRUMENT FOR ASYMPTOMATIC EARLY STAGE CHRONIC LYMPHOCYTIC LEUKEMIA PATIENTS



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Background

CONTEXT: Early-stage patients with Chronic lymphocytic leukemia (CLL) are diagnosed without need for treatment, managed with following (1). The distinct course of the disease is diverse, and planing treatment is barely projected at diagnosis.

DESIGN: Retrospective study of asymptomatic patients with CLL at early stage of disease in a period of time from January 2011 to January 2021. The median follow-up was 60 months (1-120 months).

SETTING: Individual patient data from 120 treatment-naïve CLL patients with Binet A stage were analyzed to composed International Prognostic Score for Early-stage CLL and correlated with Time to treatment failure (TTF).

Objective

OBJECTIVE: The aim of the study was first-time evaluation of international prognostic score to predict time to first treatment (TFT) in Macedonian patients with early stage CLL (International Prognostic Score for Early-stage CLL IPS-E).

Materials & Methods

We presented IPS-E using three covariates: unmutated immunoglobulin heavy variable gene (IGHV), absolute lymphocyte count higher than $15 \times 10^9/L$, and presence of palpable lymph nodes. The IPS-E was the sum of the covariates (1 point each), and separated low-risk (score 0), intermediate-risk (score 1), and high-risk (score 2-3) patients showing a distinct TFT.

IPS-E risk groups	Number	Percent %
	120	100%
Low risk score 0	9	7,5%
Intermediate risk, score 1	53	44%
High risk score 2.3	59	49%

Table 1: Patients distribution according to IPS-E risk group

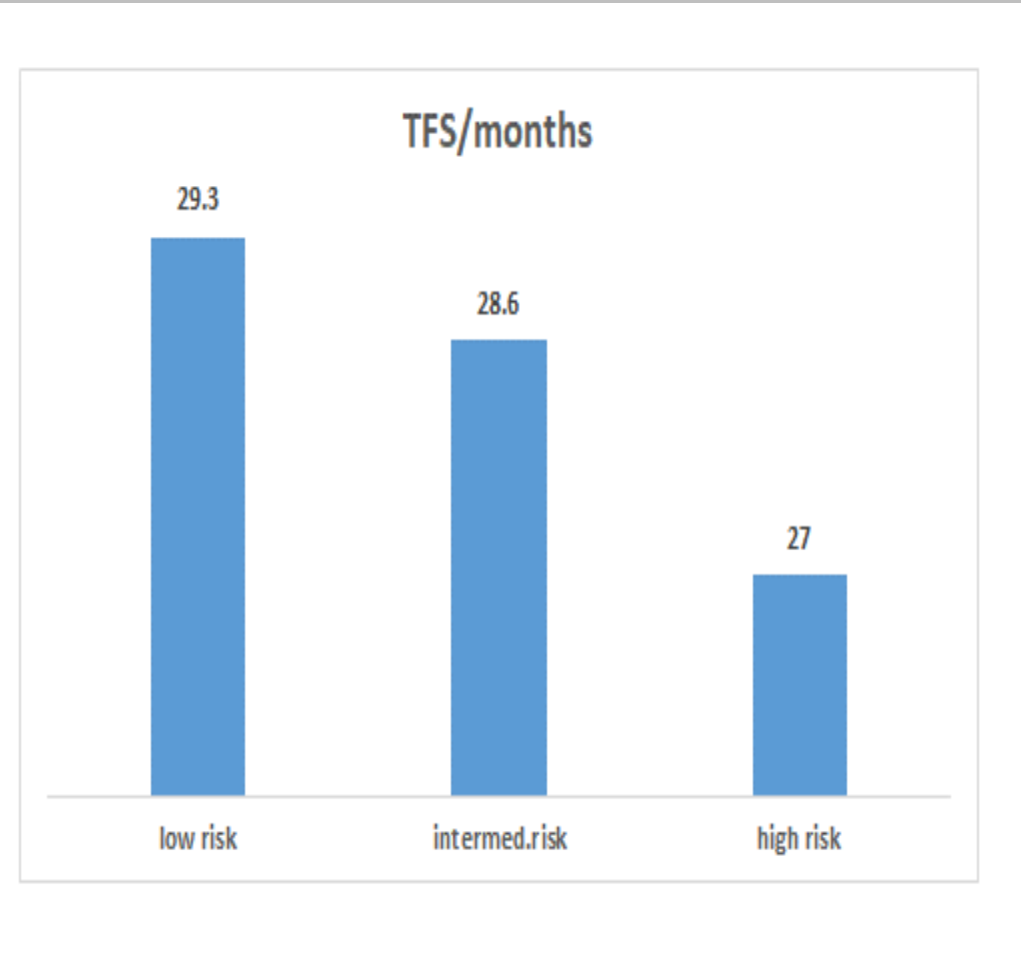


Figure 1. Average TFS among IPS-E risk groups in months.

Results

Our evaluation has shown that 55% patients were male and 45% were female. Average age was 64 years. Using IPS-E patients were distributed in three groups: low risk with 7, 5%, intermediate risk with 44, 1% and high risk patients 49%(Tab.1). Average TFS was 29, 3 months for low risk group, 28, 6 months for intermediate-risk group and 27, 1 months for high-risk group (Fig.1). Using prognostic nomogram we calculated 5 years probability of survival for low, intermediate and high risk group: 73%, 72% and 70% respectively(Fig.2) with projected median survival of 9, 1 year for low risk group and 9, 0 year, 8, 9 years for intermediate and high risk groups(Fig.3,4).

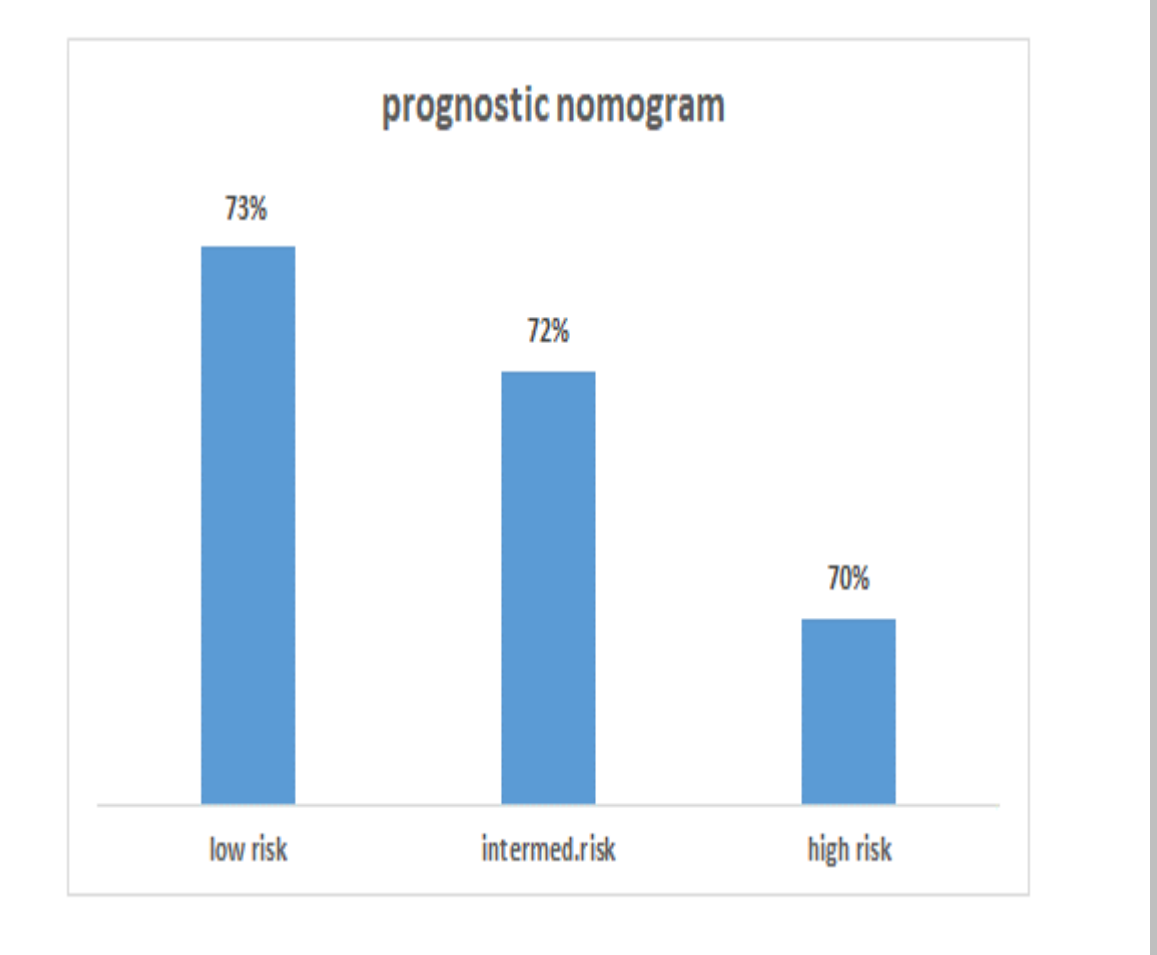


Figure 2. Estimated 5-year OS rate in different risk CLL-IPS-E groups.

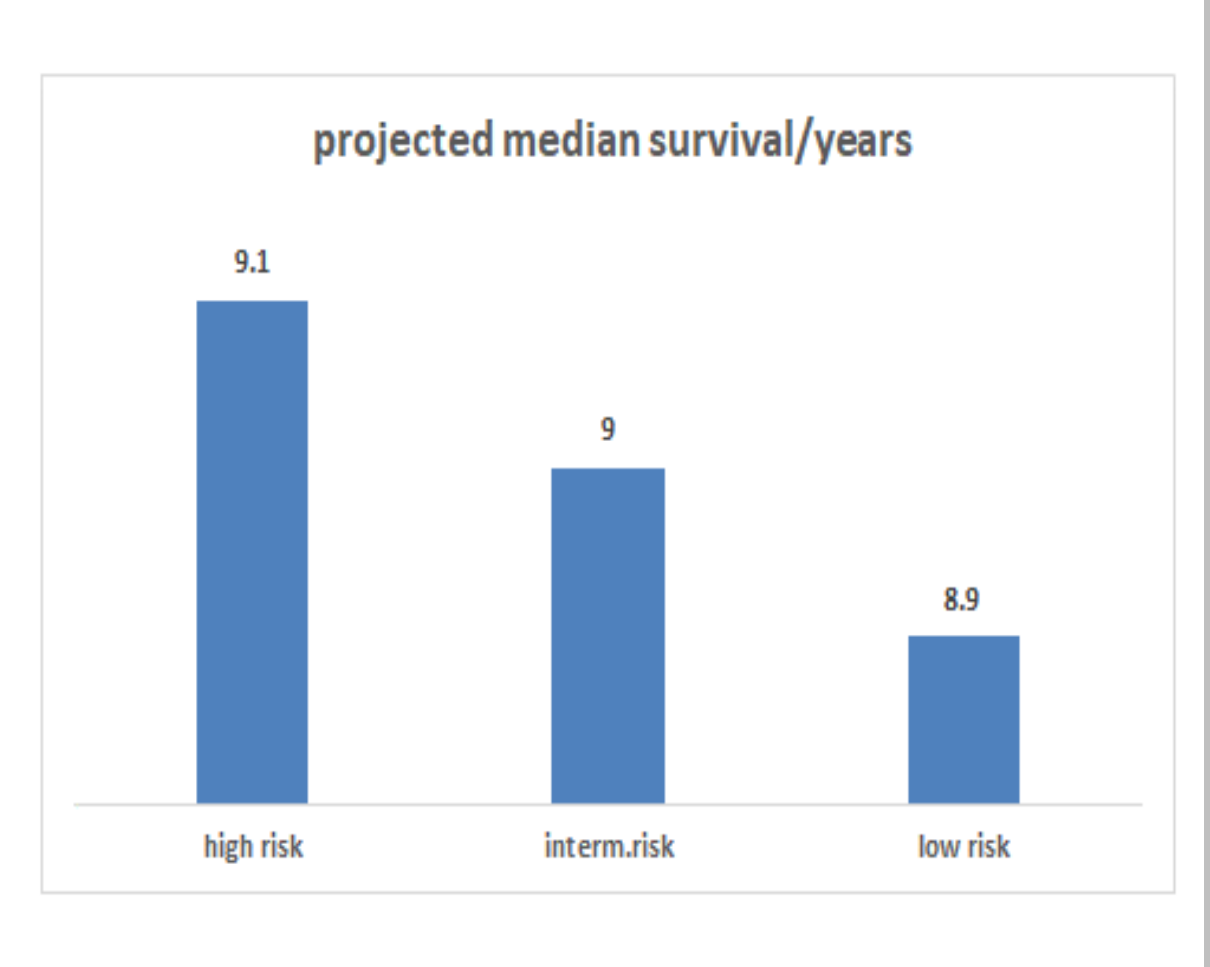


Figure 3. Projected median survival in different risk CLL-IPS-E groups.

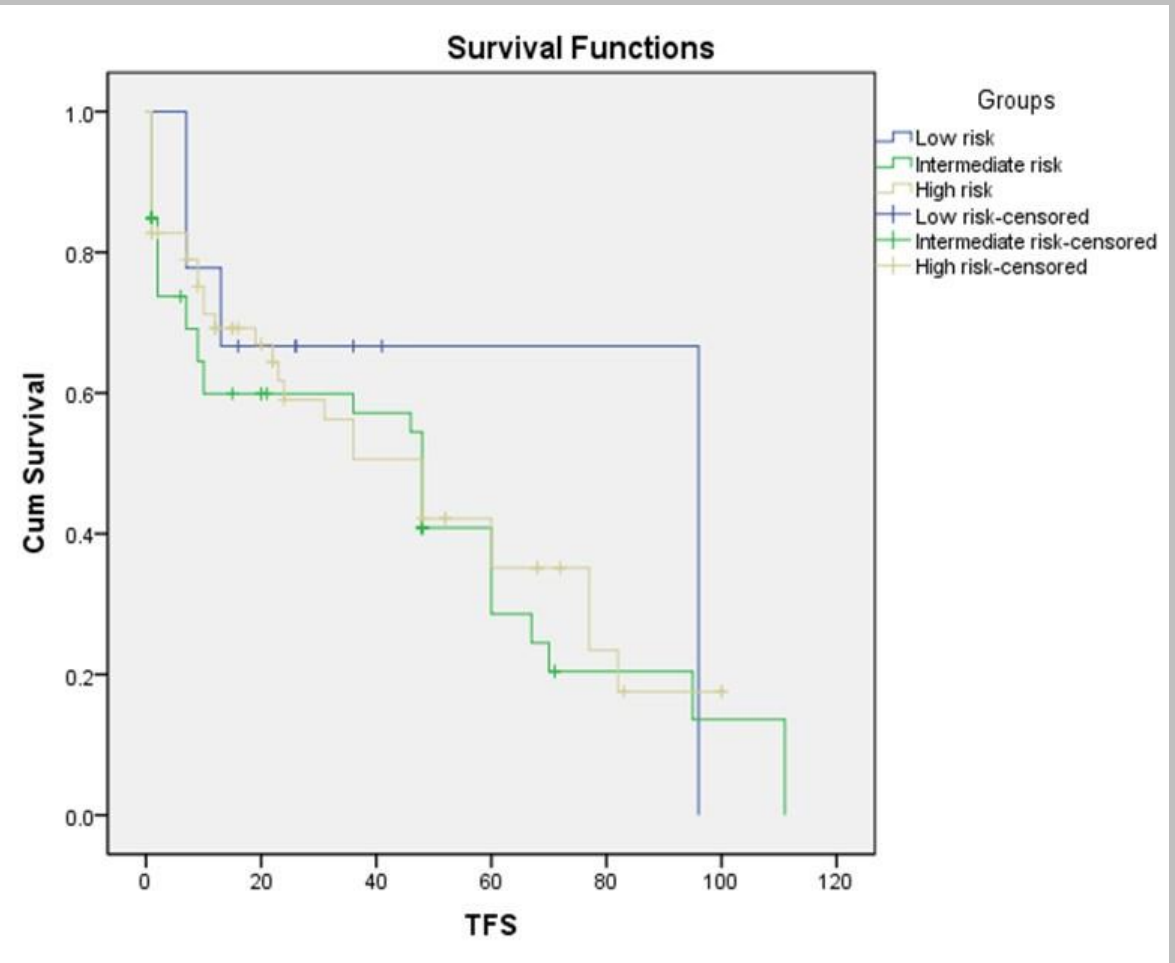


Figure 4. Kaplan-Meier curve of TFS in IPS-E risk groups

Conclusions

The IPS-E is a simple prognostic model that predicts the probability of treatment necessity in patients with early-stage CLL.

References

1. Condoluci A, Terzi di Bergamo L, Langerbeins P, Hoechstetter MA, Herling CD, De Paoli L, Delgado J, Rabe KG, Gentile M, Doubek M, Mauro FR, Chiodin G, Mattsson M, Bahlo J, Cutrona G, Kotaskova J, Deambrogi C, Smedby KE, Spina V, Bruscaggini A, Wu W, Moia R, Bianchi E, Gerber B, Zucca E, Gillissen S, Ghielmini M, Cavalli F, Stussli G, Hess MA, Baumann TS, Neri A, Ferrarini M, Rosenquist R, Forconi F, Foà R, Pospisilova S, Morabito F, Stilgenbauer S, Döhner H, Parikh SA, Wierda WG, Montserrat E, Gaidano G, Hallek M, Rossi D. International prognostic score for asymptomatic early-stage chronic lymphocytic leukemia. *Blood*. 2020 May 21;135(21):1859-1869. doi: 10.1182/blood.201903453. PMID: 32267500.