Can CLL-IPI predict who may never need treatment for B-CLL?

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AIM

Prognostic factors of B-CLL overall survival and resistance to treatment have recently been integrated into the comprehensive CLL-IPI score. However, since B-CLL is increasingly diagnosed in an early stage as an incidental finding in a blood exam, it becomes relevant to characterise the subgroup of patients who may never need treatment.

Table 1: CLL-IPI PROGNOSTIC MODEL

Adverse factor	Grade	Risk Group	Risk score
17p-/TP53 mut	4	Low-risk	0-1
U IGHV	2	Intermediate-risk	2-3
β2mg >3,5mg/L	2	High-risk	4-6
Rai I-IV/Binet B-C	1	Very High-risk	7-10
Age > 65 years	1		

METHODS

- We conducted a retrospective study of 156 unselected patients, newly diagnosed with B-CLL, at the University Hospital Ghent between 2000-2012.
- Demographics and CLL-IPI score were collected in all patients at the time of diagnosis.
- We defined treatment free survival (TFS) and overall survival (OS) as study endpoints.
- Analysis was performed using Kaplan-Meier estimate and significance was tested using the log-rank algorithm (Kaplan-Meier). Reported p-values are 2-sided with a significance level of 5%.

RESULTS

- At time of statistical analysis, the median follow-up was 7.7 years with a 5- and 10-year-OS of 89% and 71%, respectively (figure 1A).
- The median TFS was 4.7 years. Ninety-nine patients (63%) needed treatment during the follow-up, being 51 patients within 2 years and 48 patients beyond the 2 year timepoint. Fifty-seven patients did not need treatment (figure 1B).
- The CLL-IPI was shown to be a good predictor for OS ($p < 0,001$) (table 2, figure 1C).
- Futhermore median TFS, based on CLL-IPI, reflected again the solid value for prognosis prediction ($p < 0,001$) (table 2). However the negative predictive value of need for treatment was only 57% in the low risk subgroup (figure 1D).

CLL-IPI Risk Group	5y-OS	10y-OS	medTFS (y)
Low-risk	98%	89%	11,8
Intermediate-risk	92%	71%	3
High-risk	74%	55%	0,3
Very High-risk	80%	11%	0,1

Table 2: Results of subgroup analysis, stratified by CLL-IPI.

Figure 1: (A) Overall survival and (B) Treatment free survival (in years) of the entire study population. (C) Overall survival and (D) Treatment free survival (in years), stratified by CLL-IPI.

CONCLUSION

- In our cohort, up to 37% of unselected pts newly diagnosed with B-CLL did not require treatment after a median follow-up period of 7.7 years.
- The CLL-IPI is a valid predictor for survival prognosis in this population. Although it also can identify a subgroup of patients who will need therapy in the future, it was shown to lack the capability of identifying patients whom will never need treatment.**

REFERENCES

International CLL-IPI working group. An international prognostic index for patients with chronic lymphocytic leukaemia (CLL-IPI): a meta-analysis of individual patient data. Lancet Oncol. 2016;17(6):779-790.