Association of Molecular Remission with Eutos and ELTS Risk Scores among CML Patients in the Armenian Cohort

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Background

Current research focuses in chronic myeloid leukemia (CML) includes prediction of treatment outcomes with risk scores and possibility of treatment-free remission (TFR) with regular molecular monitoring. In Armenia, as a low-income country, regular molecular monitoring and monitoring-based treatment has been underway since January 2021. Yet, since 2003, frontline Imatinib therapy was performed among all CML patients. Ponatinib and Nilotinib have been available since 2018. The aim of this retrospective study is to evaluate the association of molecular response with EUTOS and ELTS risk status.

Materials & Methods

The data was taken from Hematology Center after prof. R. Yeolyan (Molecular Biology Department, Blood Disease Registry and Armenian CML Database). Study includes 234 newly-diagnosed CML patients during 2010-2020. Frontline therapy was performed with Imatinib in all patients, of whom 23 switched it to other TKI based on qRT-PCR results. Statistical analysis was performed by SPSS 22. The scores were measured only on the basis of CML Database, which is still being completed.

Results

EUTOS was evaluated in 114 patients: 4 (3.5%) high and 110 (96.5%) low risk. ELTS was measured in 110 patients: 16 (14.5%) high, 34 (30.9%) intermediate, and 60 (54.5%) low risk. Of the 4 high-risk patients with EUTOS, 1 achieved MR^4, 1 had MR^5, 1 had $MR^{4.5}$, and one reached no MR. Of the 110 low-risk Eutos patients, 28 had MMR, 9 had MR^4, 13 had MR^5, 24 had $MR^{4.5}$, and 36 reached no MR. Among 16 high-risk patients with ELTS, MMR was obtained in 3 patients, MR^4 in 1, MR^5 in 3, $MR^{4.5}$ in 2, and 7 patients did not reach MR. Among 34 intermediate-risk patients with ELTS, MMR was achieved in 9 patients, MR^4 in 4, MR^5 in 5, $MR^{4.5}$ in 8, and 8 achieved no MR. Of the 60 patients at low risk for ELTS, 16 patients achieved MMR, 4 patients MR^4, 4 patients MR^5, 15 patients $MR^{4.5}$, and 21 patients did not reached MR.

Conclusion

Overall, in the Armenian cohort, CML patients achieved MR regardless of their risk status with EUTOS and ELTS. However, based on the small number of high-risk patients, further analysis is needed for a definitive conclusion.

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