

To Study Outcomes in Young CML Treated with TKI. A Registry Data from Hematological Cancer Consortium (HCC) of India

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Background

CML

- The prognosis of CML has improved dramatically with the advent of tyrosine kinase inhibitors (TKIs) such as imatinib.
- The long-term data of IRIS study shows the sustained remission of CML in individuals on regular imatinib (1).

CML-AYA

- The young and adolescent patients form a significant proportion of CML population. Moreover, it is more important in developing countries like India where average life span is lower than the western world.
- The data on CML in AYA population from India is very limited and therefore, making it difficult to formulate a separate strategy for this sub-group (2).
- The available data from western world suggest a relatively poor result from CML treatment in patients of AYA sub-group (2,3).
- Therefore, it is required to study this sub-group.

Objectives

- To determine the disease outcome of adolescents and young adults (AYA) with CML in India as measured by event free survival (EFS), overall survival (OS) and transformation free survival (TFS)

Methodology

Study Design: Retrospective Multi-center – Observational

Study period: 01 Jan 2020 to 01 June 2022

Inclusion criteria:

- Newly diagnosed CML patients
- Age > 15 years

Exclusion criteria:

- Unwilling for consent
- Lack of data
- The cohort was divided into AYA (15 to 29 years) and others (30 years or more).

Results

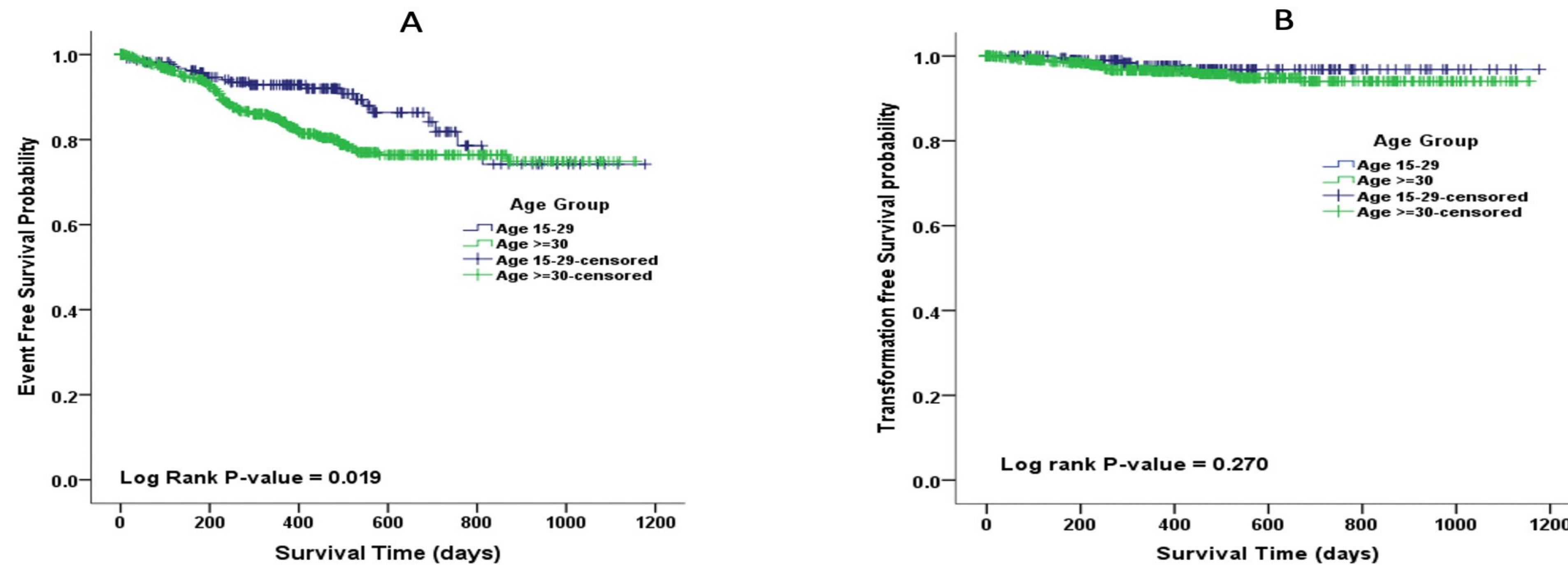


Figure -1: (A) Event free survival probability in both groups. (B) Transformation free survival probability in both groups

Conclusion

- While the AYA group had a significantly less low risk cases by Sokal score, more numbers were treated upfront with second generation TKI.
- EFS was significantly better in AYA group.
- Major shortcoming of this registry data is short follow up duration and very less number of evaluable patients for assessing molecular and cytogenetic response.

References

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Discussion

- Total of 1070 patients diagnosed with CML were included in the study. The patients of age group 15-29 years were 273/1070 (25.5%). Most were in chronic phase (249/273, 95.04%).
- The low-risk CML cases by Sokal score were 61 (26.75%) cases in 15-29 years age group in comparison to 69 (11.11%) cases in the older group and the difference was statistically significant ($p < 0.001$).
- Low-risk cases by ELTS and EUTO score were seen in 32.51% and 61.30% cases in 15-29 years age group and it was comparable to other group (24.9% and 62.1%).
- The type of transcript were P210 in 202 (97.58%) cases in AYA group. Spleen size, hemoglobin, WBC, Platelet, blasts (%), quantitative BCR ABL (%) were comparable in both the groups.
- Imatinib was used as first TKI in 193 (71.75%) cases. Significantly more number of patients in AYA group were treated upfront with second generation TKI (28.2%) in comparison to others (23.3%) ($p = 0.02$).
- The median doses missed by patients in 15-29 years group during first 03 months were 5, while in other group it was 13 and it was statistically significant ($p = 0.002$).
- Median duration of therapy was 13 (0-28) months in AYA and 12 (0-38) months in other group. Progression to blast crisis was seen in 3/273 (0.01%) patients in the AYA group.
- While OS and transformation free survival were comparable in both groups, event free survival (EFS) was significantly better in AYA group (Fig-1A-B).

