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POSTER ABSTRACTS

632.CHRONIC MYELOID LEUKEMIA: CLINICAL AND EPIDEMIOLOGICAL

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

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Background: Chronic Myeloid Leukemia (CML) is a hematological malignancy characterized by the abnormal proliferation of white blood cells. While CML is primarily a disease of middle and old age, a significant proportion of cases are diagnosed in adolescents and young adults. The incidence of CML in India is relatively low (0.53 to 0.71 / 100,000), but the country's large population means that even a small increase in incidence can translate to a significant disease burden. The prognosis of CML has improved dramatically with the advent of tyrosine kinase inhibitors (TKIs) such as imatinib, dasatinib, and nilotinib, which have transformed CML from a fatal disease to a chronic, manageable condition. However, the optimal management of CML in adolescents and young adults (AYA) is still a matter of debate, and there is limited data on the outcome of this disease in this age group in India. Hematology Cancer Consortium (HCC) is a group of premier hematology and oncology institutes from India created for collecting and collating data of various hematologic malignancies in a central online data management system.

Design and methods: Retrospective data from 01 Jan 2020 to 01 June 2022, of all CML patients treated with TKI at 11 member institutions of HCC were analysed. The cohort was divided into AYA (15 to 29 years) and others (30 years or more). The objective of this study was 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) . Events were defined as death from any cause, progression to accelerated phase (AP) or blast crisis (BC) and change to second generation TKI from imatinib while on therapy. We also compared the outcome of AYA with others.
Results: 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).
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.

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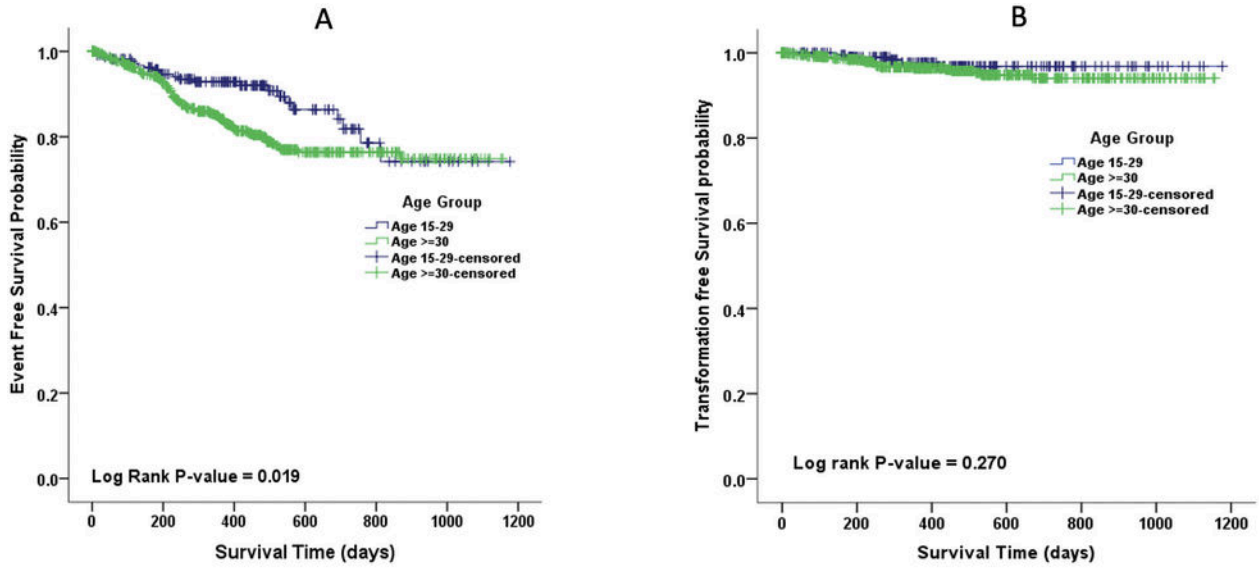

Figure -1: (A) Event free survival probability in both groups. (B) Transformation free survival probability in both groups

Figure 1

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