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Blood 142 (2023) 1808–1809

The 65th ASH Annual Meeting Abstracts

POSTER ABSTRACTS

632.CHRONIC MYELOID LEUKEMIA: CLINICAL AND EPIDEMIOLOGICAL

Successful Treatment-Free Remission in Low- and Middle-Income Countries

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Introduction

Discontinuation of tyrosine kinase inhibitors (TKIs) is feasible in a subset of chronic myeloid leukemia (CML) patients who have maintained a deep molecular response (MR) for ≥2 years. Numerous TKI discontinuation trials from high-income settings show that ~50% of patients relapse after discontinuing TKIs and need to restart treatment. However, most patients with CML worldwide are from low- and middle-income countries LMIC where TKI access and molecular testing make routine care and attempts of treatment-free remission (TFR) problematic. The successful implementation of TFR in LMICs would benefit both CML patients as well as the health economics of each country. This analysis describes the experience of attempting TKI discontinuation in the LMIC setting.

Methods

The Max Foundation's TFR Support Program provides financial and wrap-around support for patients attempting TFR in LMICs. The program operates in countries where The Max Foundation has existing partner institutions and physicians, imatinib and second line TKIs are available, and there is ≥1 reliable method of quantitative RT-PCR testing for BCR::ABL1. Eligible patients were >18 years old, diagnosed with chronic phase CML and treated with imatinib for ≥10 years with no history of resistance, and had a BCR-ABL level MR $^{4.5}$ or better (≤0.0032%) for ≥12 months (m) as demonstrated by 2 RT-PCR tests. Patients who consented were enrolled in the program and monitored by their treating physician. Upon starting TFR, patients' BCR::ABL1 levels were tested monthly for the first 6 m, then every 3 m for the following 6 m, then every 6 m. Patients who relapsed (BCR::ABL1 loss of MR ^{3} or >0.1%) after beginning TFR restarted imatinib and were tested approximately every 1-3 m until they achieved MR ^{3}. We conducted a retrospective analysis on the outcomes of patients enrolled in The Max Foundation's TFR Support Program to better understand TFR outcomes in an LMIC setting.

Results

The molecular results pre- and post-TKI discontinuation are shown in **Figure 1**. In total, 39 patients from sites in 5 countries (Armenia, Honduras, India, Kenya, and Paraguay) were followed by 8 program physicians. The mean age of the patients was 51 years (range, 22-77), with 22 females and 17 males. Patients had been on imatinib for an average of 15 years (range, 10-20). At time of discontinuation, all but 1 patient was on 400 mg/day of imatinib (1 treated at 300 mg/day). Thirty-two patients had undetectable BCR::ABL1 for both pre-discontinuation tests, 6 had one test with a value of <0.01%, and 1 had both tests detectable at <0.01%. Of the 39 patients, 32 remain actively followed, with 14 patients completing >12 m of follow-up. Nine patients had a molecular relapse (23%) with a BCR::ABL1 >0.1% IS after a median of 2 m of discontinuation (range, 1-18 m). Of these, 2 patients have not had repeat testing to confirm molecular relapse, and 1 patient became undetectable on follow-up 1 m later. None of these 3 patients have restarted TKI therapy. Seven of 39 patients (18%) have restarted TKI treatment. Of

these 7 patients, 3 were restarted on TKI, but have not had a follow-up BCR::ABL1 evaluation. Of the remaining 4 patients who restarted TKI, 2 had no detectable BCR::ABL1 at the 9 m and 12 m follow-up, and 2 remain with evidence of BCR::ABL1 at 12 m and 17 m follow-up.

Conclusions

The data suggest that under conditions that allow frequent follow-up examination and testing, patients attempting TFR in LMIC have similar outcomes to those patients described in controlled clinical trials from academic settings in high-income countries. Additional confirmation of these findings will likely impact both the health of CML patients and the health economics in these LMICs.

Figure 1. BCR:ABL1 and outcomes following TKI discontinuation.

Disclosures No relevant conflicts of interest to declare.

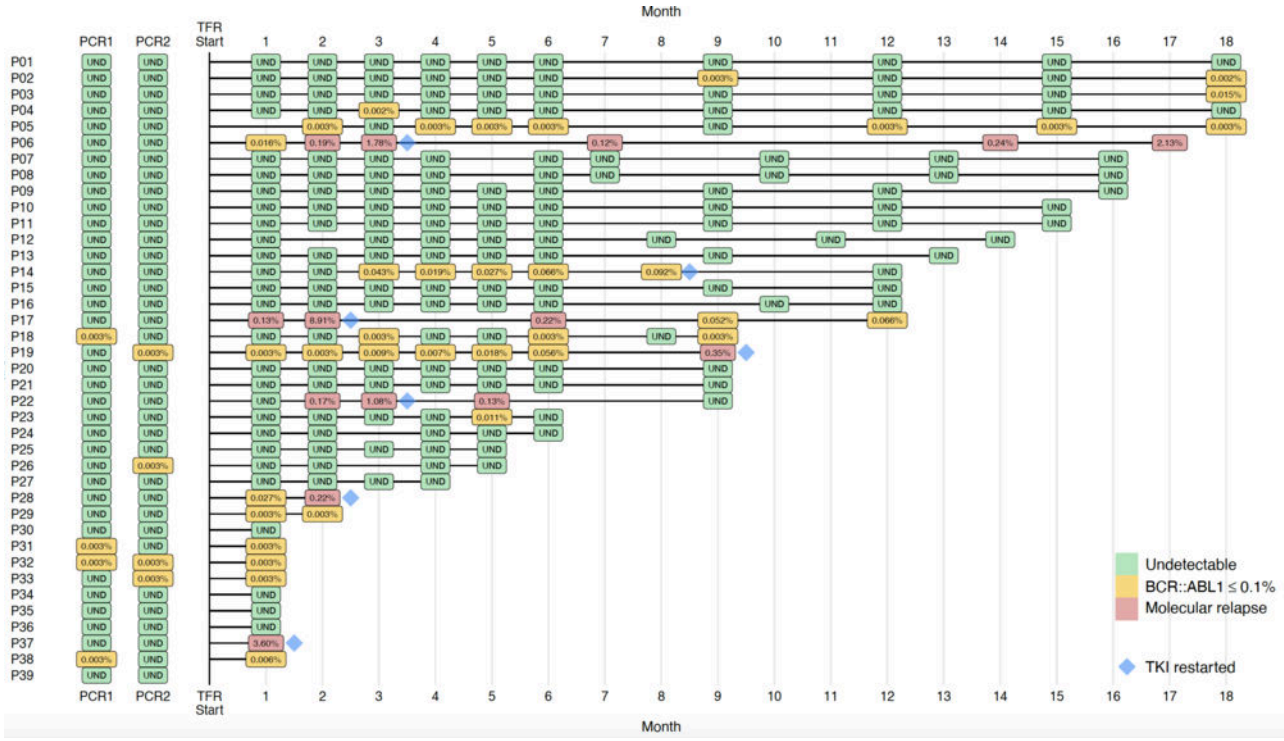

Figure 1

https://doi.org/10.1182/blood-2023-191049