ACHIEVING TREATMENT-FREE REMISSION IN CML PATIENTS TREATED WITH BOSUTINIB: DATA FROM THE ITALY-TFR REGISTRY

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Introduction

Bosutinib is a second-generation tyrosine kinase inhibitor (TKI) approved in Italy for CML patients previously treated with one or more TKIs.[1] Although TKI discontinuation is established for patients achieving deep molecular response (DMR) with imatinib, nilotinib, or dasatinib, data on bosutinib are still limited[2].

Aim

To describe the characteristics and outcomes of patients who discontinued bosutinib in the real-world setting of the ITALY-TFR Observational Registry (NCT04769947).

Methods

- Sub-analysis of 20 patients who discontinued bosutinib in DMR enrolled in Itlay-TFR study (tot pts=939).
- Minimum follow-up: 12 months after discontinuation.
- Descriptive statistics and Kaplan-Meier survival analysis for TFR.

Results

Median age at discontinuation: 65 years
Sex: 60% male
Line of bosutinib treatment: 25% 1st-line[3,4], 30% 2nd-line, 45% ≥3rd-line
Reason for switching to bosutinib: 65% due to intolerance, 10% due to resistance
Median follow-up: 4.18 years (IQR 2.54-5.43)
Median total treatment duration: 80.5 months (IQR 63.5-114)
Median dose at discontinuation: 200 mg (range: 100–300 mg)
Reason for stopping: 75% shared decision, 25% toxicity
All patients had DMR at discontinuation:

- MR5: 45%
- MR4.5: 20%
- MR4: 35%

Treatment resumption:

- 4 patients (20%) lost molecular response within 6 months
- Retreated with bosutinib (1 pt), asciminib (1 pt), nilotinib (1 pt), or imatinib (1 pt)
- No disease progression reported

TFR rate:

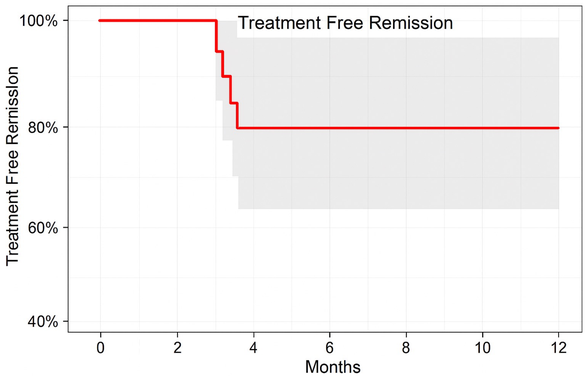
- 12 months: 80%
- 24 months: 80%
- 48 months: 80% (95% CI: 60–93%)

Table 1. Description of patients who failed TFR.

	Transcript type	Sokal	N of lines before TFR (including Bosutinib)	Reason to switch	Total Duration of TKI * (mos)	Duration of Bosutinib (mos)	Duration of DMR (mos)	MR at STOP	Time to TKI restart (mos)
F, 69 yo	b3a2	Low	3	Intolerance	62	33	59	MR 4	2
M, 65 yo	na	na	2	Intolerance	59	5	55	MR 4	4
M, 61 yo	na	na	3	Resistance	132	9	1	MR 4.5	3
M, 64 yo	b3a2	Low	3	Resistance	62	44	na	MR4	3

*Median duration of total treatment was 62 months, lower than the duration of the total population.

Figure 1. TFR of patients who discontinued bosutinib.



Summary

Our preliminary analysis suggests that discontinuing bosutinib is as safe as discontinuing other TKIs. Our patients suspended by clinical decision rather than toxicity. The depth of molecular response was the strongest predictor of successful TFR for the cases already reported in literature. All but one patient who relapsed in our case series had an MR4.

References

1. Kantarjian et al. *Clin Lymphoma, Myeloma and Leukemia 2024*
2. Alfayez M. et al. *Blood 2018*
3. Cortes JE. et al. *J Clin Oncology 2012*
4. Brümmendorf TH et al. *Leukemia 2022*.

Conclusions

Bosutinib discontinuation in patients with sustained DMR appears to be safe and effective, comparable to other TKIs. These results support expanding the role of bosutinib in TFR strategies.

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