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EE119

Cost-Effectiveness of Asciminib for the Post-2 Tyrosine Kinase Inhibitor Treatment of Chronic Phase Chronic Myeloid Leukaemia in Türkiye

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KEY FINDINGS & CONCLUSIONS

- Asciminib generated 8.26 QALYs and 10.07 life year (LY) gains while bosutinib generated 3.85 QALYs and 5.16 LYs.
- The ICER was 557,268TRY for QALY and 500,121 TRY for LYs.
- Asciminib is a cost-effective option compared to bosutinib for third line treatment of chronic phase chronic myeloid leukaemia in Türkiye

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INTRODUCTION

Chronic myeloid leukaemia (CML) is a rare type of cancer caused by a reciprocal translocation between chromosomes 9 and 22. This translocation results in the formation of a new abnormal chromosome, known as the Philadelphia chromosome, within the hematopoietic stem cells located in the bone marrow(1). In the majority of cases CML is diagnosed with chronic phase and eventually can evolve to advanced phases, with the latter comprised of the accelerated phase (AP) and the blast crisis phase (BP). The current standard of care for patients with chronic phase CML (CP-CML) is tyrosine kinase inhibitors (TKIs)(2). Patients who do not respond to a TKI are switched to another one.

The objective of this study is to estimate the cost-effectiveness of asciminib for post 2 TKI treatment of CP-CML compared to bosutinib in Türkiye.

METHODS

A Markov model was developed to cover adult patients with CP-CML who have received two prior lines of treatment. Effectiveness data was obtained from the ASCEMBL trial with a minimum follow-up of 96 weeks. The analysis was conducted from the Turkish payer perspective (The Social Security Institution-SSI) with a life-time horizon.

The SSI price for asciminib was determined according to local pricing and reimbursement regulations (based on the lowest reference country price and a 41% mandatory institutional discount). The study included costs for drug acquisition, administration, monitoring, disease management, subsequent treatment and adverse event treatment. Costs were calculated using SSI reimbursement prices on 15.05.2024. All costs and outcomes were discounted by 3%.

METHODS

The model structure is presented in Figure 1. All patients who receive a 3L TKI/Chemotherapy enter the analysis in the 'CP-CML: On 3L treatment' health state. Upon discontinuing 3L treatment, patients can transition to the 'CP-CML: Off 3L treatment' health state. Patients receive subsequent 4L+ therapy in this health state until disease progression. Progressed disease is modelled using two health states specific to AP-CML and BP-CML health states.

Time to treatment discontinuation (TTD) data from ASCEMBL was used for the comparison of asciminib with bosutinib. As data from the ASCEMBL trial was limited to 96 weeks maximum follow up, parametric distributions were fit to the observed TTD Kaplan-Meier (KM) data to extrapolate over a lifetime horizon (Figure 2 and Figure 3).

The results were presented as incremental cost per life years and incremental cost per QALYs.

Figure 1. Model Structure

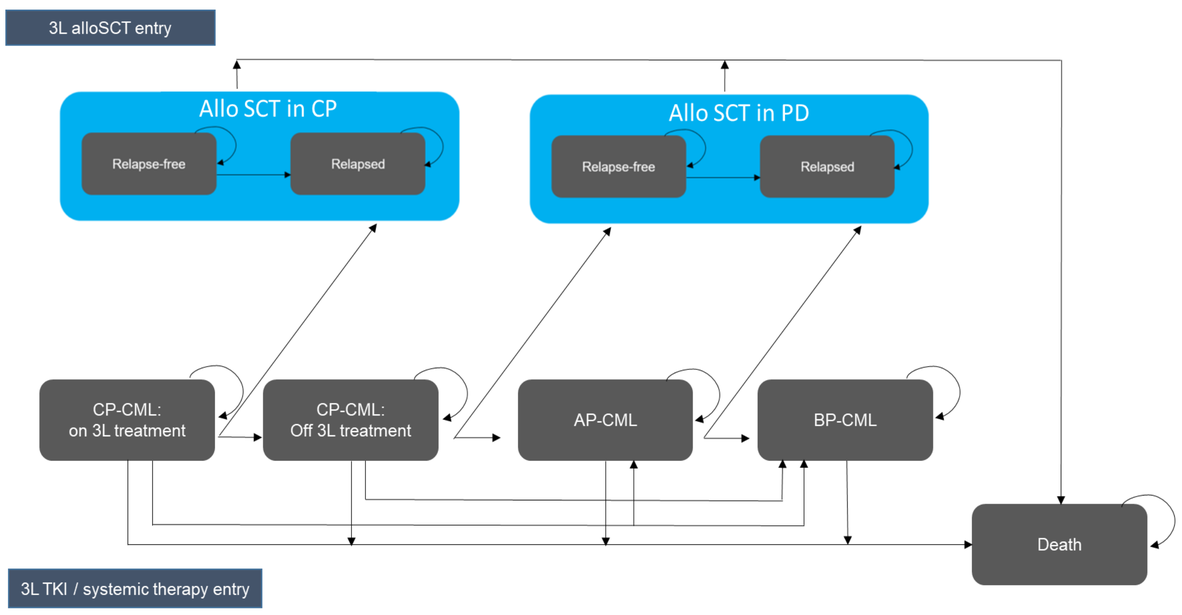


Figure 2. Time to treatment discontinuation curves from ASCEMBL trial

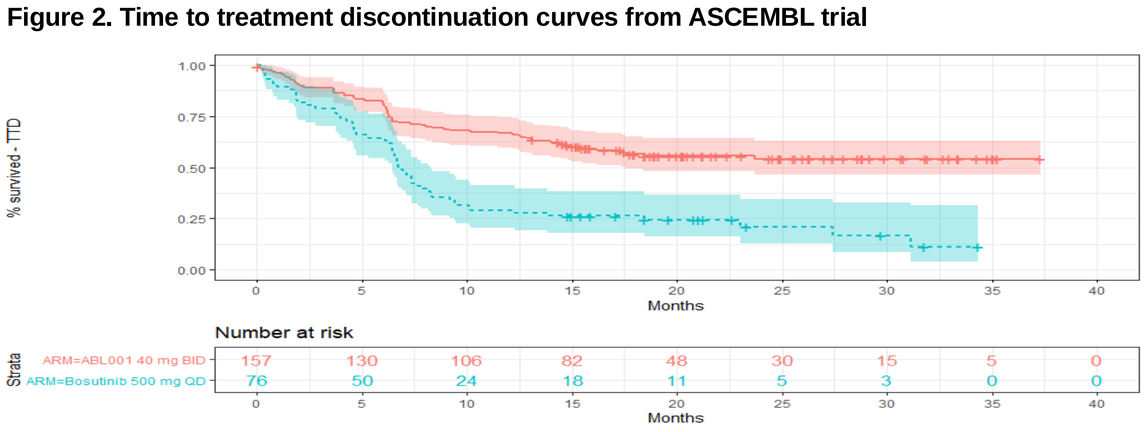
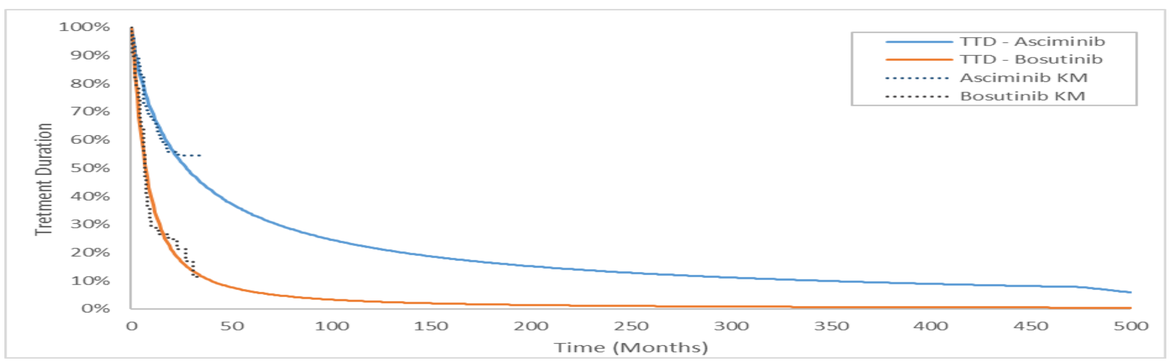


Figure 3. Time to treatment discontinuation curves from ASCEMBL trial



RESULTS

The cost-effectiveness analysis estimated an incremental cost of 2,459,086 TRY per patient over a 40-year time horizon for asciminib vs bosutinib. The treatment cost per patient was 3,793,842 TRY for asciminib and 1,334,756 TRY for bosutinib. Asciminib generated 8.26 QALYs and 10.07 life year (LY) gains while bosutinib generated 3.85 QALYs and 5.16 LYs. The incremental QALY and LY gains were 4.41 and 4.92 respectively. The incremental cost effectiveness ratio (ICER) was 557,268TRY for QALY and 500,121 TRY for LYs. Sensitivity analysis results indicated the robustness of the findings

Table 1. Asciminib vs Bosutinib- Cost of Treatment (TRY)

Cost Item	Asciminib (TRY)	Bosutinib (TRY)
Drug	2,856,834	498,116
Disease Monitoring	12,259	2,867
Stem Cell Transplant	98,367	125,216
Subsequent Treatment	761,631	671,932
Disease Management	58,435	30,523
Terminal Care	3,240	3,988
Adverse Events	3,076	2,114

TRY: Turkish Lira

Table 2. Cost-Effectiveness Analysis Results (Life Years) Asciminib vs Bosutinib

	Cost (TRY)	Incremental Cost (TRY)	Life Years	Incremental Life Years	ICER
Asciminib	3,793,842	2,459,086	10.07	4.91	500,121
Bosutinib	1,334,756		5.16		

ICER: Incremental Cost-Effectiveness Ratio; TRY: Turkish Lira

Table 3. Cost-Effectiveness Analysis Results (QALYs) Asciminib vs Bosutinib

	Cost (TRY)	Incremental Cost (TRY)	Life Years	Incremental Life Years	ICER
Asciminib	3,793,842	2,459,086	8.26	4.41	557,268
Bosutinib	1,334,756		3.85		

ICER: Incremental Cost-Effectiveness Ratio; TRY: Turkish Lira

CONCLUSION

Türkiye does not have a threshold value for decision-making. The GNP per capita was estimated as 307.952TRY in 2023. Based on this, it can be concluded that asciminib is a cost-effective option compared to bosutinib in Türkiye for third line treatment of CP-CML.

References
[1]Hehlmann R et al (2007), Chronic myeloid leukemia. Lancet , 370(9584): 342-350. doi: 10.1016/S0140-6736(07)61165-9.
[2]National Comprehensive Cancer Network. Clinical Practice Guidelines in Oncology - Chronic Myeloid Leukemia (Version 1.2020 - August 26.

Disclosures

Mehtap Tatar has received consultancy fees from Novartis, Türkiye

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