

Background

- The current standard of care for Philadelphia chromosome positive (Ph+) ALL is concurrent chemotherapy or corticosteroids with a TKI followed by an allogeneic stem cell transplant for those who obtain a morphologic remission and are eligible.
- Recent studies have suggested that allogeneic stem cell transplant may not be required in all patients with Ph+ ALL, especially those who achieve an early complete molecular remission (CMR) after induction [1,2].
- Patients who achieved an early CMR appeared to have similar long-term outcomes to those who received allogeneic stem cell transplant, but this has not been demonstrated in a randomized controlled trial in adults [1,2].
- Novel therapies in Ph+ ALL such as blinatumomab and ponatinib have also demonstrated favorable outcomes in the first-line setting. How these therapies affect long-term outcomes with and without transplant remains unknown [3,4].

Objectives

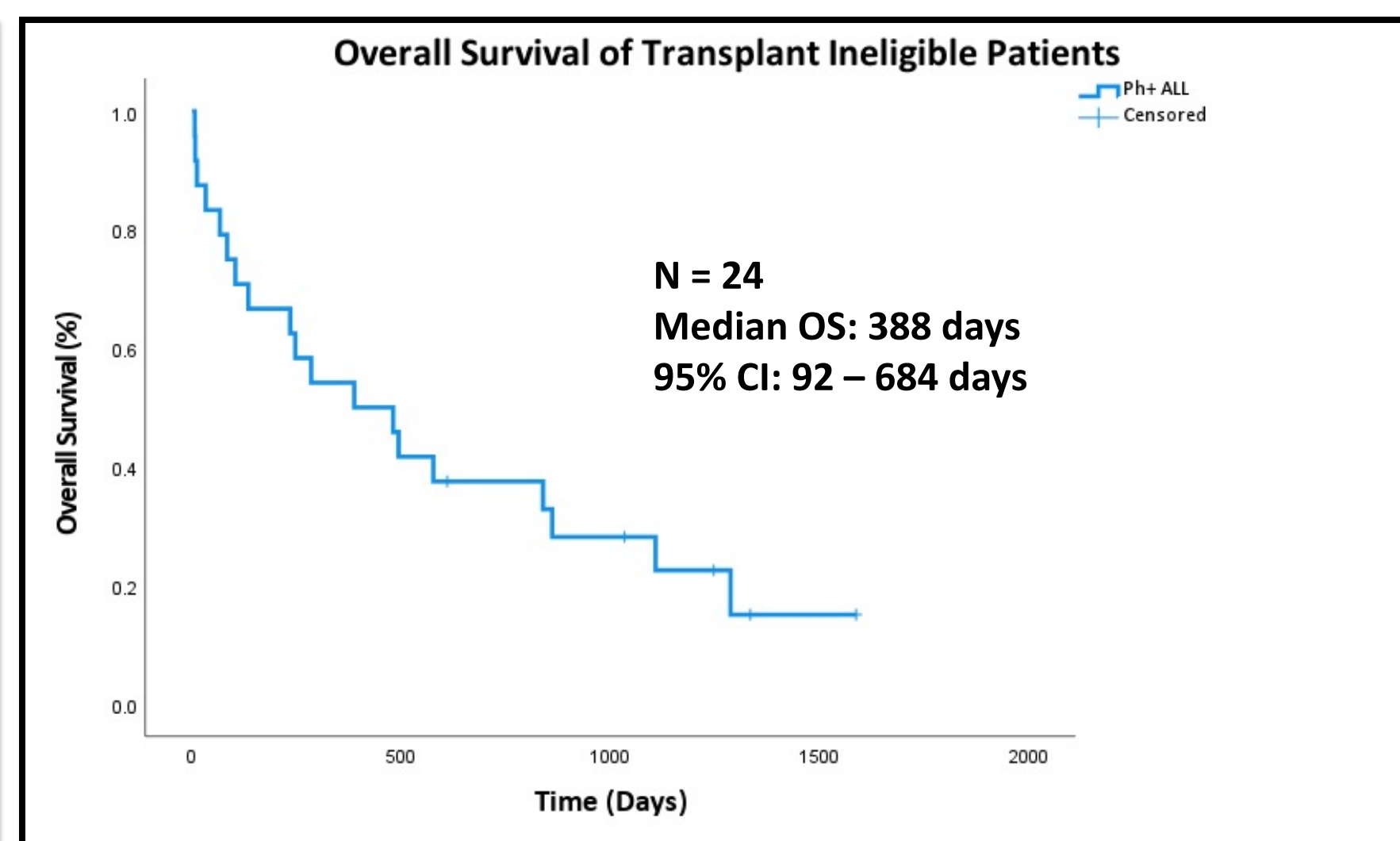
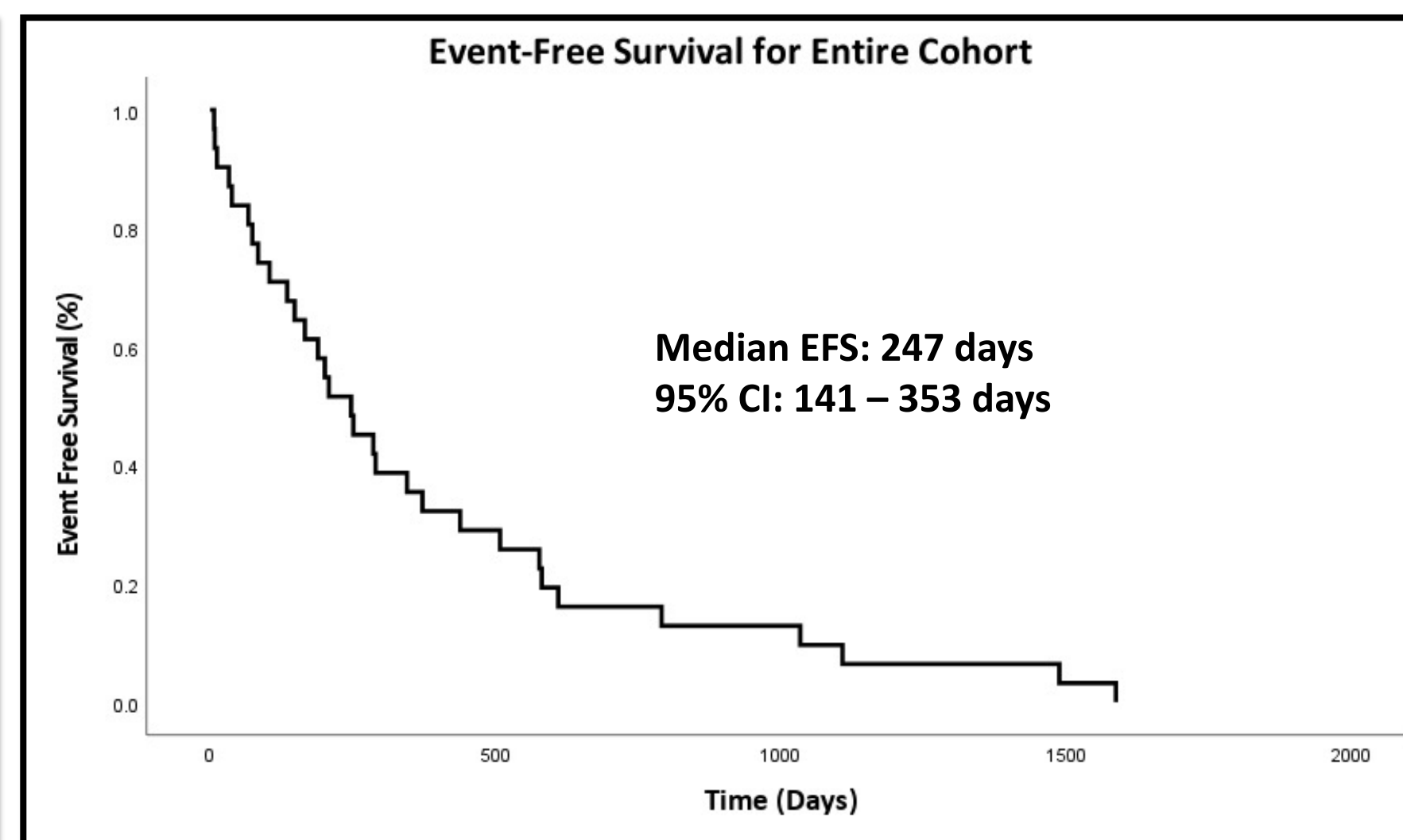
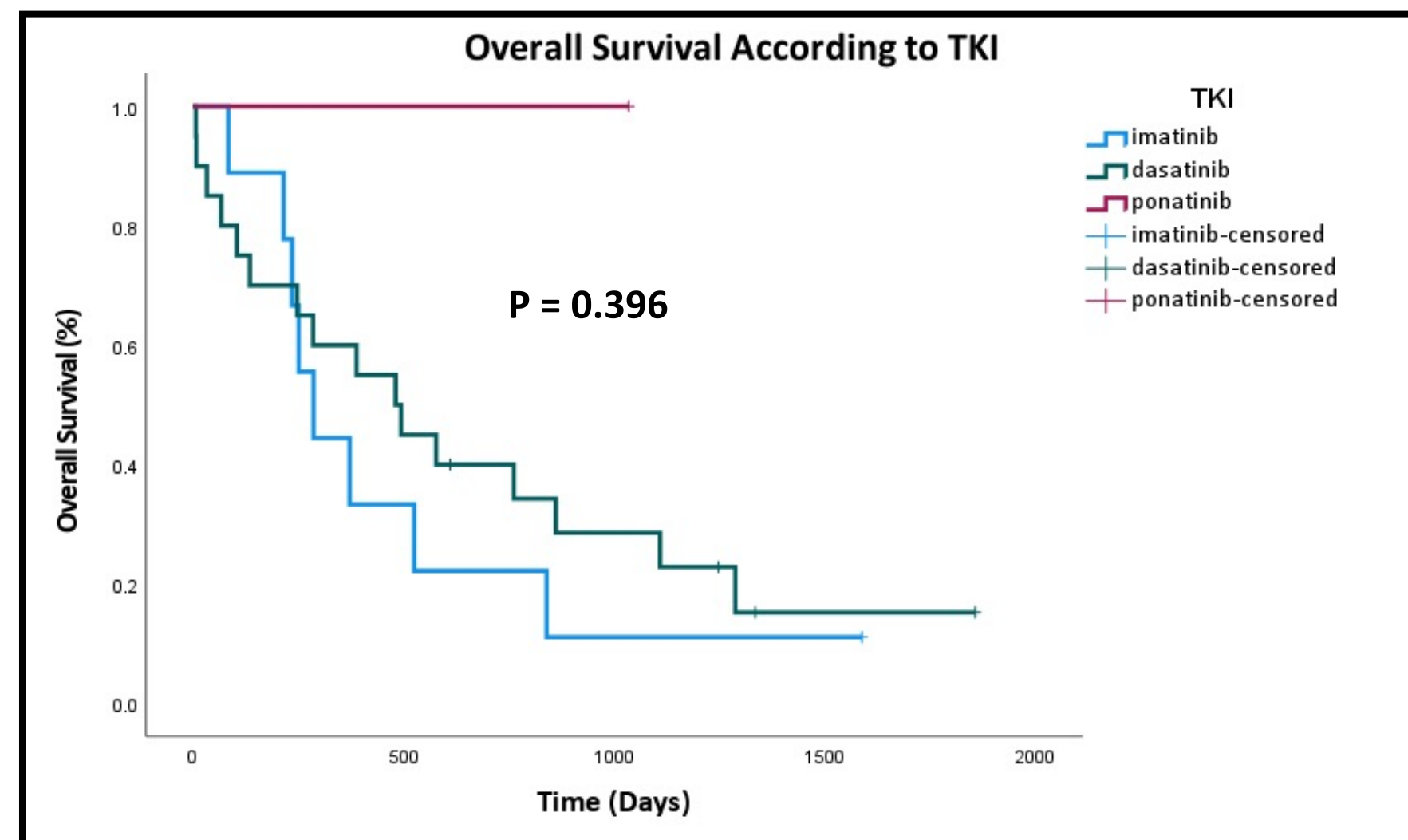
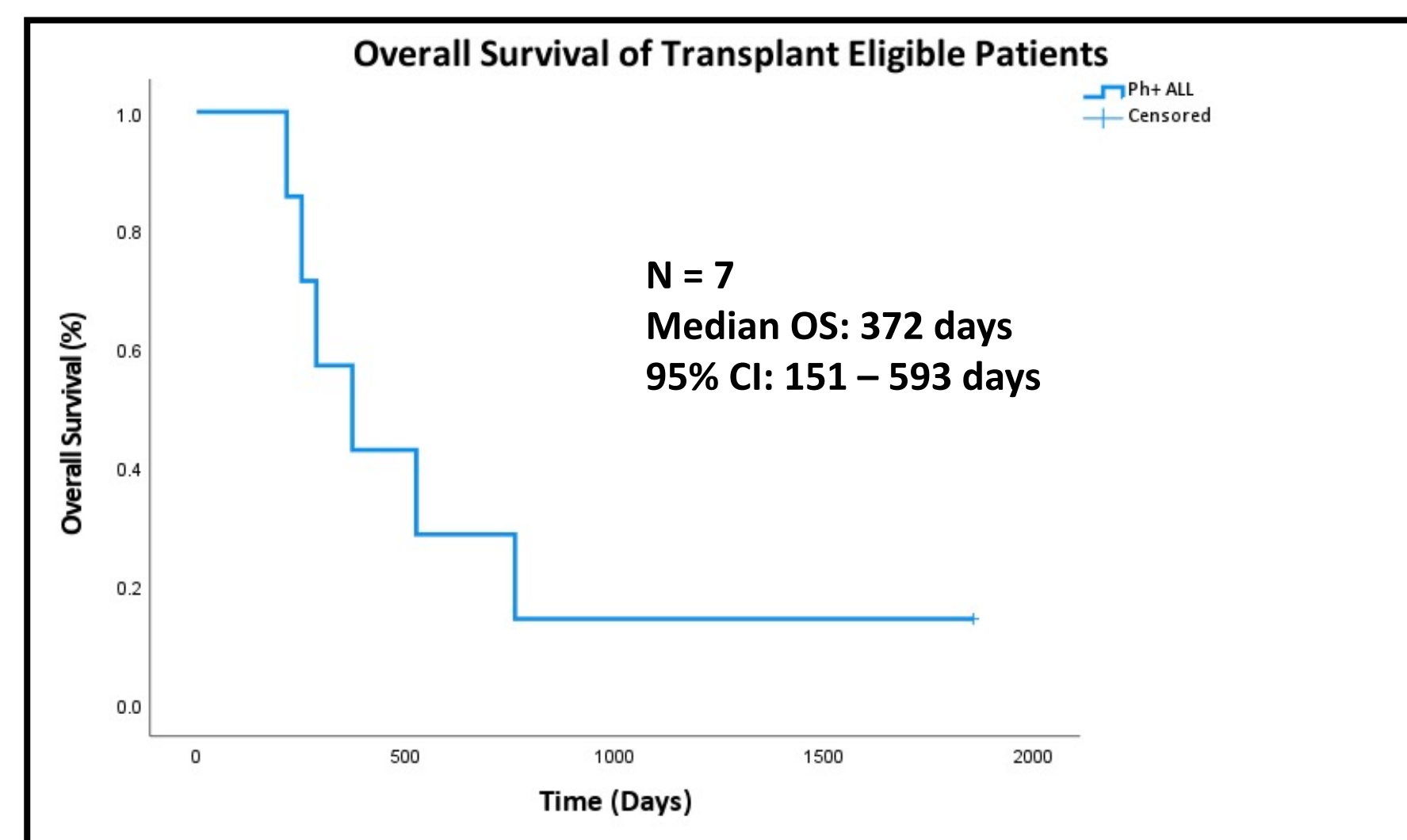
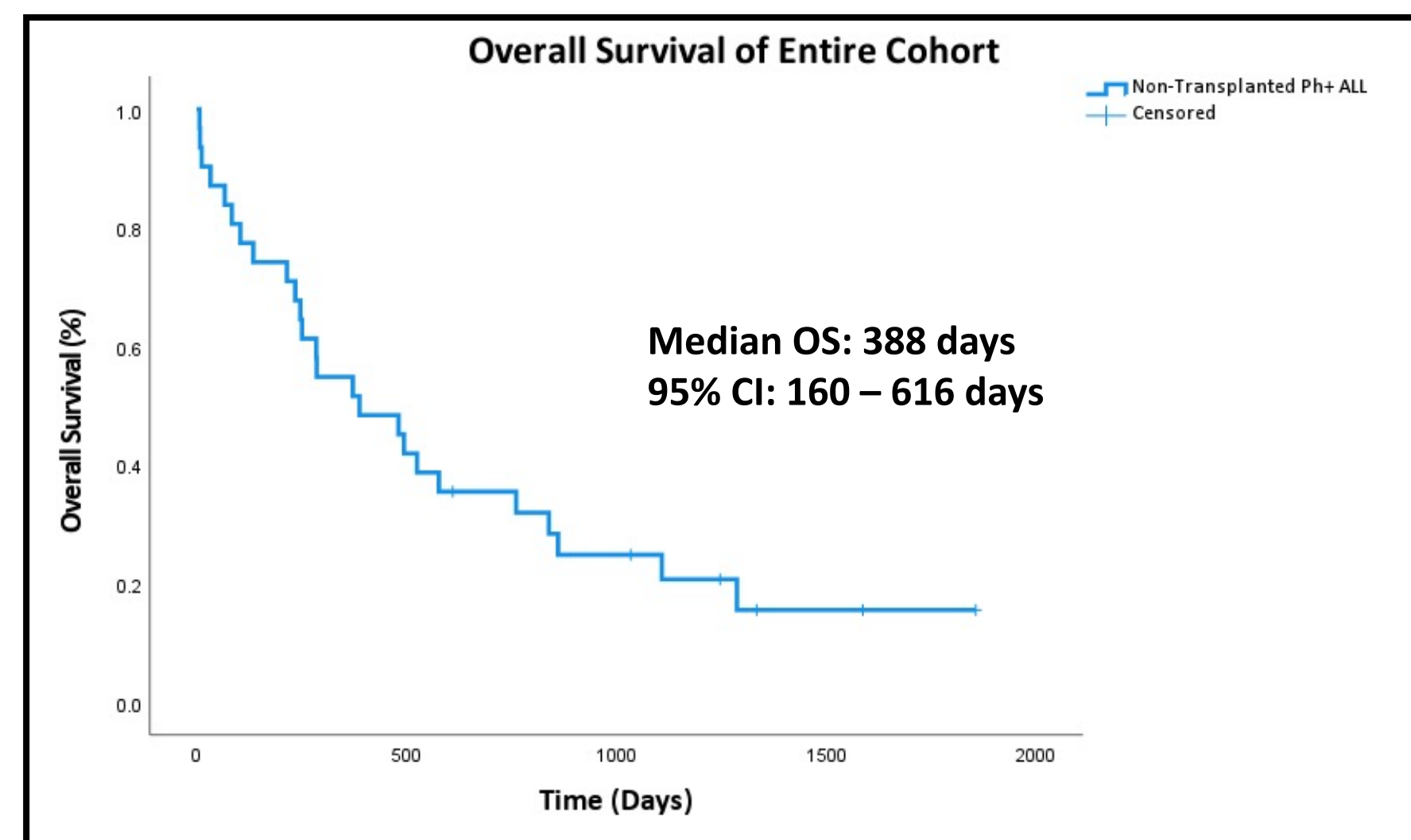
- Our objective is to analyze the outcomes and characteristics of patients with Ph+ ALL treated within our institution who did not undergo allogeneic stem cell transplant.
- We are particularly interested in the outcomes of patients who were medically cleared for allogeneic stem cell transplant, but did not receive a stem cell transplant due to non-medical reasons.

Study Design

- We conducted a retrospective cohort study of patients with Ph+ ALL identified in our leukemia outcomes database who were treated at the University of Michigan between 2007-2019.

Results

Baseline Characteristics (N = 31)	
Induction TKI	
Dasatinib (N)	20
Imatinib (N)	9
Ponatinib (N)	1
IKZF1 Mutation Present (%; N)	36; 4
Median age (years) at diagnosis	66
Females (No; %)	13; 42



Patient Cohort

- 10/31 patients achieved a CMR. Median time to achieving CMR was 148.5 days.
- There was no statistically significant difference in OS observed between the TKI groups by Chi-Squared testing (p = 0.396).
- Cox regression analysis found HR of 0.129 [0.020 – 0.841] for HyperCVAD + TKI and HR of 10.177 [1.209 – 85.667] for dexamethasone, vincristine, TKI.
- All patients in our cohort experienced relapse during follow up.
- The most common reasons for not undergoing transplant were age (> 70 years old), comorbidities, functional status and patient preference.

Conclusion

- Outcomes are poor for patients with Ph+ ALL who do not undergo allogeneic stem cell transplant.
- Although our sample size was small, patients who were medically eligible for allogeneic stem cell transplant, including those who obtained a CMR, but did not undergo transplant, had poor outcomes.
- Outcomes did not vary by choice of TKI, though our study was underpowered to assess such a difference.
- Our study is limited by the historical nature of our cohort and does not reflect the use of recent novel therapies. In addition, our sample size is small.

References

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- Short NJ, Jabbour E, Sasaki K, et al. Impact of complete molecular response on survival in patients with Philadelphia chromosome-positive acute lymphoblastic leukemia. *Blood*. 2016 July; 128(4): 504-507.
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