

Improved survival of patients with primary myelofibrosis in the last decade

in large single academic center

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Abstract

Background: Improved outcome of patients with primary myelofibrosis (PMF) in the last decade remains debatable owing to inconsistent reports.

Objective and Methods: To determine whether the outcome of PMF patients has changed in the last decade (> the year of 2010).

Retrospective study of 882 PMF patients (diagnosed within one year from presentation) who came to our institution between years 1986-2020. Overall survival (OS) of patients who presented ≤ and > the year of 2010 was measured and compared (Kaplan-Meier analysis with log rank test). Major clinical features at presentation were compared between groups using x2 or Fisher’s exact test.

Results: Patients > 2010 had superior OS to patients who presented ≤ 2010 with respective medians of 61 (95% CI, 52-70) and 44 (95% CI, 36-52) months, p < 0.001. Outcome has improved > 2010 in older patients as well as those with higher (combined intermediate 2 and high) Dynamic International Prognostic System Score (DIPSS). Median OS (≤ and > 2010) for < 65 years old was 62 months (95% CI, 50-74) and not reached, respectively; and for ≥ 65 years was 29 (95% CI, 24-34) and 46 (95% CI, 41-51) months, respectively. Median OS (≤ and > 2010) for higher DIPSS was 25 (95% CI, 21-29) and 44 (95% CI, 37-51) months, respectively, and for lower DIPSS was 68 (95% CI, 56-80) months and not reached, respectively.

Over the entire follow-up, 282 (74%) and 156 (31%) patients from ≤ and > 2010 died, p < 0.01. Mortality per 1000 person years of observation was lower > 2010 (128 vs 164 ≤ 2010, p = 0.04).

Clinical features of both groups were comparable, except for higher age (60% vs 45% ≥ 65 years, respectively; p < 0.001) of patients > 2011.

Summary: Our single-institution analysis of the survival trends among a large cohort of 882 patients with PMF demonstrates an improvement in survival in the last decade.

Background

Median survival of patient with primary myelofibrosis (PMF) could vary from decades to months based on patient’s and disease risk features. Improved outcome in the last decade remains debatable owing to inconsistent reports (Cervantes et al.¹; Szuber et al²).

Objective

To determine whether the outcome of PMF patients has changed in the last decade, e.g. after the year of 2010.

Materials & Methods

- Retrospective study of 882 PMF patients with MF diagnosis < 1 year from presentation and presented to our institution between years 1986-2020.
- Patients were divided into two groups based on their presentation time: ≤ and > the year of 2010.
- We compared patient and disease characteristics between the 2 groups at presentation using x² or Fisher’s exact test. Overall survival between groups was estimated by Kaplan-Meier method and compared by log rank test.

Results

Baseline Patient’s Demographics

N 882	Median [range] or (95% CI), N (%)	
Characteristics	MF ≤ 2010, 383	> 2010, 499
*Age ≥ 65 years	172 (45)	299 (60)
Hemoglobin < 10 g/dL	154 (40)	193 (39)
White blood cells > 25 x 10 ⁹ /L	57 (15)	58 (12)
Platelets ≤ 100 x 10 ⁹ /L	110 (29)	114 (23)
DIPSS int 2 and high	166 (43)	226 (45)
Unfavorable karyotype	46 (12)	61 (12)

*Statistically significant, Unfavorable karyotype: +8, 11q23, 12p-, -5/7, 17p, 3+ ABN

OS of all Patients ≤ 2010 and > 2010

OS of Patients with lower DIPSS ≤ 2010 and > 2010

OS of Patients with higher DIPSS ≤ 2010 and > 2010

OS of ≤ 65 years old Patients ≤ 2010 and > 2010

OS of > 65 years old Patients ≤ 2010 and > 2010

Summary

Our single-institution analysis of the survival trends among a large cohort of 882 PMF patients demonstrates an improvement in OS in the last decade, including patients ≥ 65 years and those with DIPSS intermediate 2 and high.

References

1. Cervantes et al. Journal Clin. Oncology. 2012;30(24):29811-2987.
2. Szuber et al. Mayo Clin Proc. 2019;94(4):599-610.