Real-World Experience With Ropeginterferon Alfa-2b in Polycythemia Vera and Essential Thrombocythemia: Practice Patterns, Tolerability, and Hematologic Response at a Single Academic Center

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INTRODUCTION

Polycythemia vera (PV) and essential thrombocythemia (ET) are chronic myeloproliferative neoplasms (MPNs) for which treatment has historically aimed to reduce thrombotic risk and symptom burden. Hydroxyurea remains the most widely used cytoreductive agent but does not lower driver mutation burden.1,2 Interferons, by contrast, can achieve hematologic control while reducing JAK2 V617F and CALR variant allele frequency, supporting a potential disease-modifying role.3-6

Ropeginterferon alfa-2b, a long-acting interferon FDA approved for PV in 2021 for first line treatment, allows less frequent dosing than earlier interferon formulations and is increasingly used in ET ahead of anticipated FDA approval.7-9 Despite encouraging trial data, real-world evidence remains limited. We evaluated treatment patterns and outcomes across a single prescribing system, including patients with comorbidities often underrepresented in clinical trials.

AIM

Characterize practice patterns, tolerability, and CHR rates in patients prescribed ropeginterferon.

METHODS

Patients prescribed ropeginterferon were identified via Mass General Brigham specialty pharmacy. The MGB specialty pharmacy receives oncology prescriptions from Massachusetts General Hospital, Brigham and Women's Hospital, and, in 2021-2022, Dana Farber Cancer Institute. Data from 1/2022 to 6/2025 were gathered via manual abstraction of the EHR.

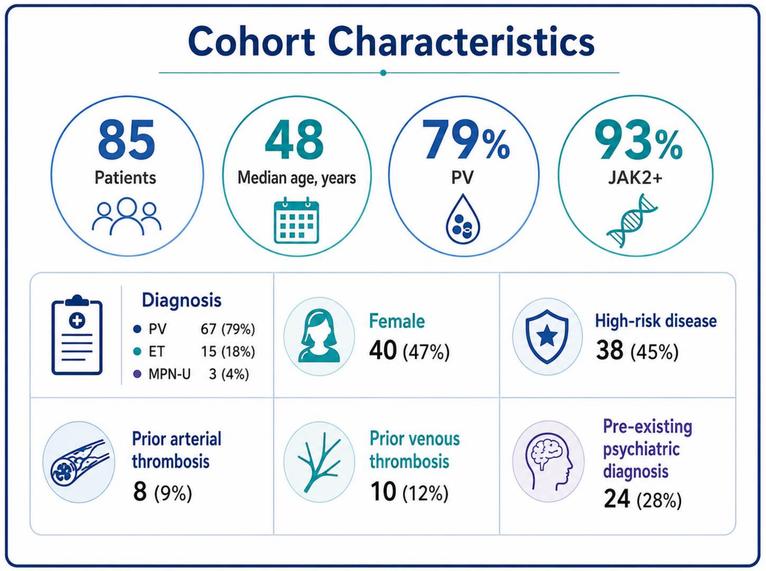
CONCLUSIONS

Our retrospective review supports the effectiveness and tolerability of ropeginterferon across a broad and clinically representative MPN population, including patients often excluded from clinical trials, such as those with autoimmune conditions, anxiety, and depression. Most patients had PV, though some received off label therapy for ET and MPN-U.

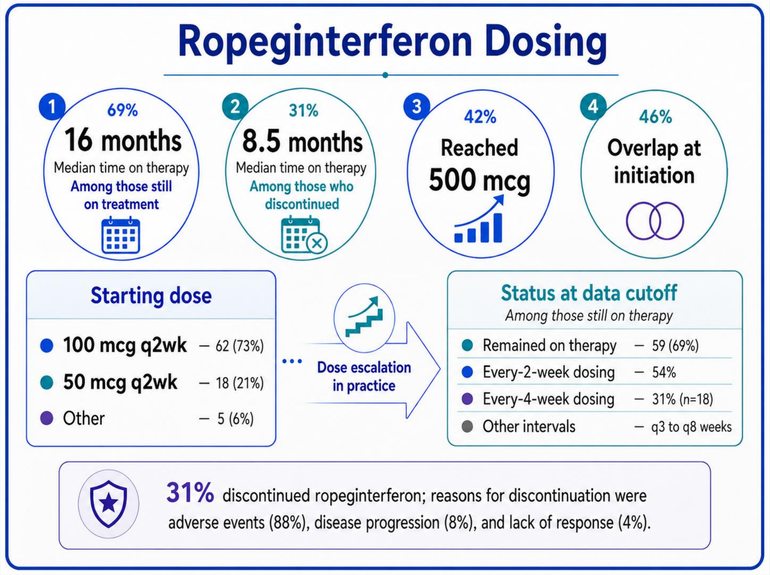
Our study demonstrated similar hematologic response rates as the landmark PROUD/CONTINUATION PV trials (12-month rate of 43%) across a range of doses in addition to re-demonstrating similar rates and commonalities of adverse events.

RESULTS

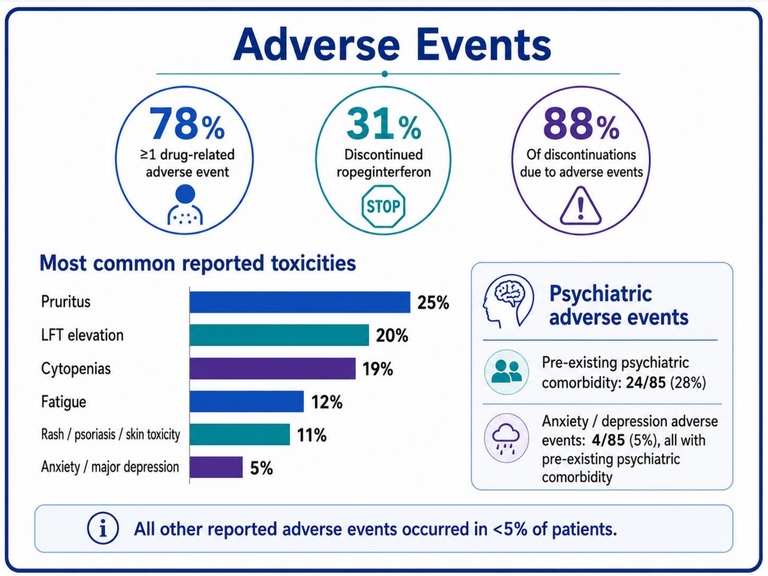
Cohort Characteristics



Ropeginterferon Dosing



Adverse Events



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