Optimising Myelofibrosis Management: A Review of JAK2 Inhibitor Prescribing, Efficacy, and Symptom Tracking

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INTRODUCTION

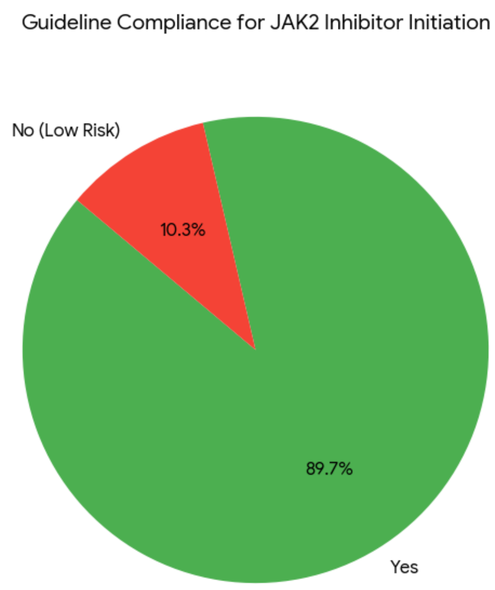
Myelofibrosis is a clonal myeloproliferative neoplasm characterised by bone marrow fibrosis, cytopenias, and extramedullary haematopoiesis, with significant impact on quality of life. JAK2 inhibitors (Ruxolitinib and Momelotinib) are established therapies in UK, but optimal management remains challenging due to monitoring limitations and the anaemia paradox..

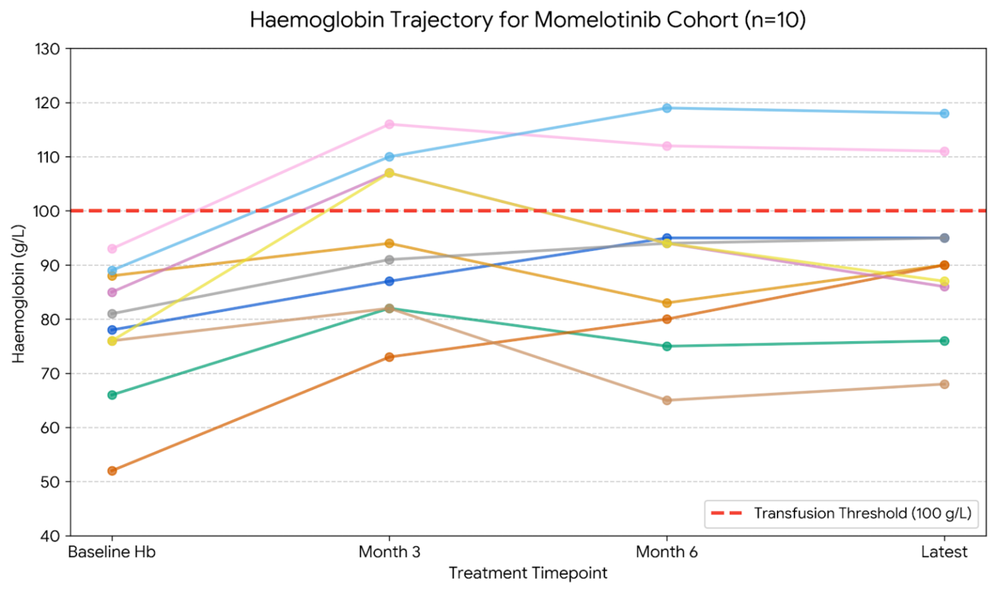
Purpose: To conduct a baseline study of current myelofibrosis management locally, evaluate JAK2 inhibitor prescribing efficacy and compliance with guidelines, and identify opportunities for quality improvement in symptom tracking and anaemia management.

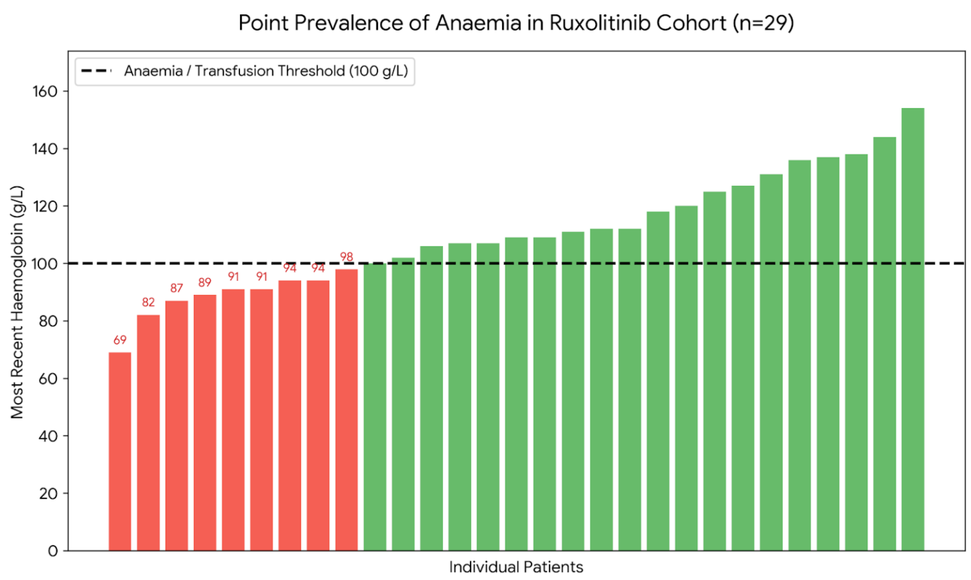
Methods: Retrospective analysis of 39 active myelofibrosis patients prescribed Ruxolitinib (n=29) or Momelotinib (n=10) across a single trust. Data collection included DIPSS Plus risk stratification, symptom documentation patterns, spleen size monitoring, haematological parameters, and transfusion requirements.

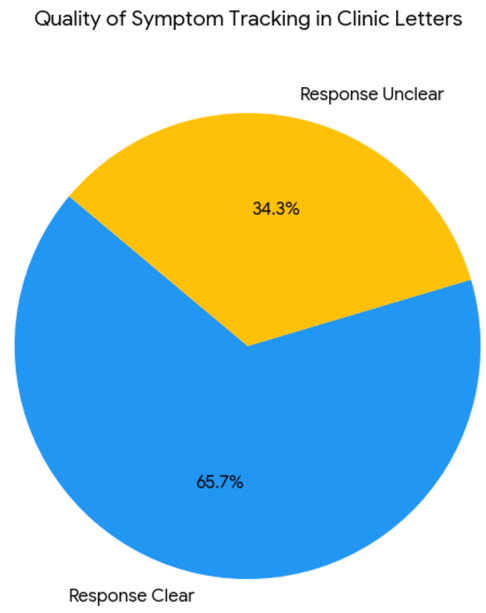
RESULT

- 89.7% (35/39) of patients were appropriately initiated based on correct DIPSS Plus stratification and only 4 patients were initiated at Low Risk following MDT discussion.
- 57% (20/35) of symptomatic patients demonstrated a documented improvement in constitutional symptoms and responses were recorded as free-text subjective interpretations.
- 25 patients had a formal baseline spleen ultrasound measurement recorded prior to commencing JAK2 inhibitors and 19 patients have a documented follow-up ultrasound.
- 4 patients (of the 10 on Momelotinib) have been switched from Ruxolitinib. The reason for this was equally split between anaemia and intolerance of Ruxolitinib.
- Momelotinibis effective in resolving anaemia as early peak efficacy at Month 3, 40% of the cohort successfully crossed the 100 g/L threshold, demonstrating a rapid initial response to Momelotinib.. By the latest follow-up, 20% maintained an Hb above 100 g/L, reflecting the natural fluctuation of the disease and highlighting the need for ongoing monitoring.
- Ruxolitinib is highly effective but does not resolve (and can exacerbate) anaemia.. 31% (9 patients) most recent blood test have Hb < 100 g/L, with some requiring ongoing transfusion support.









CONCLUSION

The department is accurate and guideline compliant at starting patients on these therapies

Current management shows good guideline compliance but requires improvement in objective monitoring. The high rate of unclear symptom documentation (34.3%) highlights the need to empower the patient to reassess their symptoms by using MPN10 tool to proactively track and report their disease burden in clinic.

Real-world experience in this cohort appears consistent with clinical trial data regarding Ruxolitinib's anaemia limitations

Composite Anemia Response to Momelotinib was measured by either a sustained increase in Haemoglobin or a documented reduction in transfusion dependency. Our local cohort achieved a 50% success rate (5 out of 10 patients) with is consistent with larger clinical studies.

Momelotinib appears effective in real-world practice for managing anaemia in Ruxolitinib-experienced patients.

Recommendations include implementing structured symptom tracking, regular DIPSS Plus reassessment, and considering therapy switches for severe Ruxolitinib-induced anaemia.

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