Incidence and Impact of Hypomagnesemia in Non-Hodgkin Lymphoma (NHL) Patients Treated with Bendamustine-Based Chemotherapy

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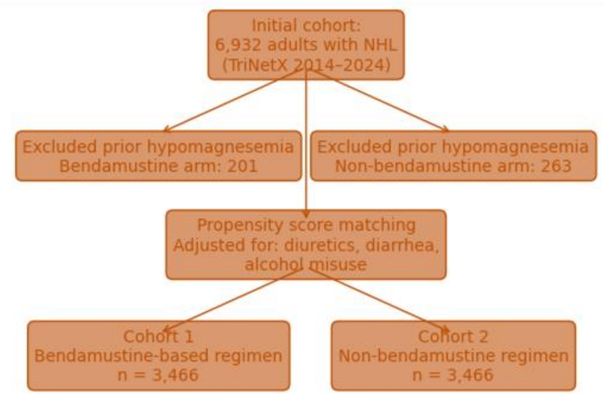
INTRODUCTION

- Bendamustine has a relatively favorable side effect profile
- hypomagnesemia is not listed among bendamustine's documented adverse effects in FDA labeling.
- Bendamutsine causes hypokalemia (9% all grades, 5% grade 3/4) but no FDA available data about hypomagnesemia.
- We studied the relationship between bendamustine use, hypomagnesemia incidence and related complications along with overall survival in NHL patients.

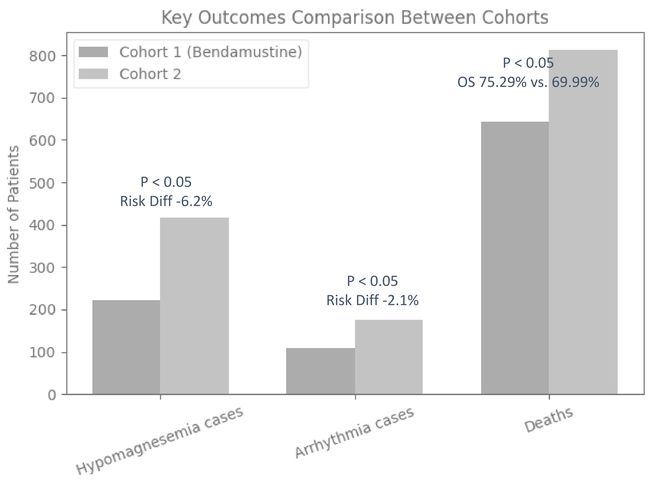
METHOD

- we conducted a retrospective analysis of propensity matched 6,932 adult patients (aged >18 years) with NHL for the period 2014-2024
- Cohort-1 (3,466 Pt) received bendamustine-based chemotherapy
- Cohort-2 received non-bendamustine regimens
- Patients with documented hypomagnesemia prior to the study window were excluded (201 from Cohort1, 263 from Cohort 2)



RESULTS

- Hypomagnesemia incidence was significantly lower in the bendamustine group (222 vs 416 patients; risk difference -0.062, 95% CI: -0.076 to -0.047; P<0.05).
- Life-threatening arrhythmias associated with hypomagnesemia occurred less frequently in Cohort-1 (109 vs 176 cases; risk difference -0.021, 95% CI: -0.031 to -0.012; P<0.05).
- Overall mortality was lower in Cohort 1 (642 vs 813 deaths; risk difference -0.05, 95% CI: -0.069 to -0.030; P<0.05), with a hazard ratio of 0.747 (95% CI: 0.673-0.828;P=0.001).
- Kaplan-Meier analysis demonstrated higher overall survival in Cohort 1 (75.29% vs 69.90%)



CONCLUSION

- Bendamustine-based chemotherapy in NHL patients is associated with significantly lower hypomagnesemia incidence and improved overall survival compared to non-bendamustine regimens.
- Hypomagnesemia predicts worse outcomes in lymphoma patients.
- studies show low magnesium levels at diagnosis or transplant are associated with inferior event-free and overall survival in diffuse large B-cell lymphoma