GLP-1 Receptor Agonists and Venous Thromboembolism Risk in Multiple Myeloma

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BACKGROUND

- Multiple myeloma (MM) carries a substantially elevated risk of venous thromboembolism (VTE), driven by disease biology and by therapy related factors.
- GLP-1 receptor agonists (GLP-1 RAs) may influence thrombotic risk through platelet inhibition and endothelial modulation.
- Thromboprophylaxis in MM is guided by risk scores with modest discrimination, so identifying modifiable exposures that shift thrombotic risk is clinically relevant.
- The association of GLP-1 RA exposure with VTE in MM has not previously been evaluated.

OBJECTIVE

Does GLP-1 RA exposure around the time of MM diagnosis alter the incidence of venous thromboembolism later in the disease course?

Comparison: MM patients with GLP-1 RA exposure versus 1:1 propensity-matched MM patients without exposure.

Primary outcome: incident VTE (pulmonary embolism or other venous thrombosis), assessed from day 90 after the index date.

METHODS

- **Design:** retrospective cohort, TriNetX US Collaborative Network.
- **Population:** adults ≥18 years with MM.
- **Exposure:** semaglutide, liraglutide, dulaglutide, exenatide or tirzepatide within 3 months before or after MM diagnosis.
- **Excluded:** baseline anticoagulation; prior VTE.
- **Matching:** sex, race, diabetes, obesity, atrial fibrillation, hypertensive disease, use of: thalidomide, lenalidomide, pomalidomide, dexamethasone - 860 pairs.
- **Analysis: R**isk ratio, Cox hazard ratio, Kaplan-Meier VTE-free survival.

CONCLUSIONS

- GLP-1 RA use was associated with a lower cumulative incidence of VTE (4.9% vs 9.2%; RR 0.53).
- The time-to-event analysis showed a numerically lower hazard that did not reach statistical significance (HR 0.79, 95% CI 0.53-1.16).
- These findings support prospective evaluation of GLP-1 RAs and thrombotic risk in MM.

RESULTS

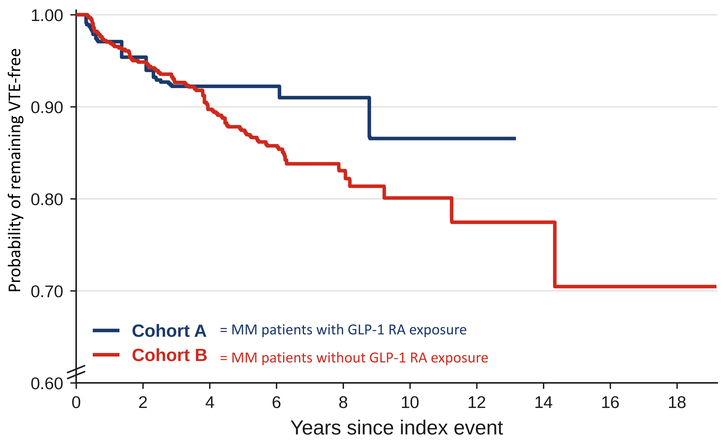
Adults ≥18 y with multiple myeloma
TriNetX US Collaborative Network

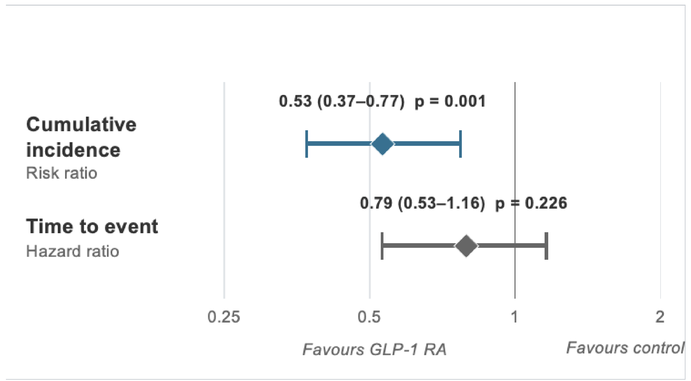
GLP-1 RA
n = 863

No GLP-1 RA
n = 106,552

Propensity matching: 860 matched pairs

Outcome analysis: 814 vs 811
prior VTE excluded before day 90





Outcome	GLP-1 RA	Control
Patients analysed, n	814	811
Median follow-up, days	665	1,089
Cumulative VTE incidence	4.9%	9.2%
Kaplan–Meier VTE-free survival at end of follow-up	86.5%	70.2%
Risk ratio 0.53 (95% CI 0.37–0.77), p = 0.001 | Hazard ratio 0.79 (95% CI 0.53–1.16), p = 0.226		

DISCLOSURES & CONTACT

The authors report no relevant conflicts of interest. This analysis used de-identified aggregate data and was exempt from IRB review.

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