IMPACT OF GLP-1 AGONISTS ON CLINICAL OUTCOMES IN PATIENTS WITH ESSENTIAL THROMBOCYTHEMIA: A PROPENSITY-MATCHED ANALYSIS

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INTRODUCTION

- Essential thrombocythemia (ET) is a chronic myeloproliferative neoplasm in which the bone marrow produces too many platelets, increasing the risk of thrombosis and bleeding.
- ET is associated with thrombotic, hemorrhagic, inflammatory, and cardiovascular morbidity.
- GLP-1 receptor agonists have metabolic and cardiovascular effects, but their outcomes association in ET is unknown.

AIMS

- To evaluate the association between GLP-1 agonist exposure and mortality among adults with ET.
- To assess the relationship between GLP-1 agonist use and thrombotic and cardiovascular outcomes in ET.
- To examine the association between GLP-1 agonist exposure and hospitalization, bleeding, transfusion requirements, and AML transformation.

METHODS

- Retrospective cohort study using the TriNetX US Collaborative Network.
- Adults with ET were identified using ICD-10 and ICD-O-3 codes.
- Patients with polycythemia vera, primary myelofibrosis, or AML were excluded.
- GLP-1 agonist users were compared with nonusers.
- Propensity-score matching was performed 1:1 for relevant demographic and clinical variables.

OUTCOMES

- Each cohort included 16,263 patients.
- Five-year outcomes were assessed using risk ratios and hazard ratios.
- Primary outcome: Five-year all-cause mortality.
- Secondary outcomes: Sepsis, atrial fibrillation, venous thromboembolism, bleeding, stroke, transfusion requirements, hospitalization, coronary artery disease, and AML transformation.

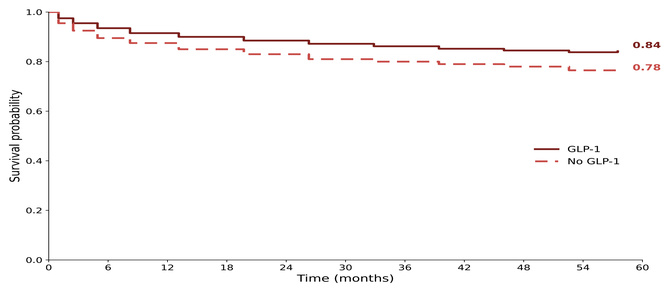
RESULTS

- GLP-1 agonist use was associated with lower 5-year mortality: 8.3% vs 13.0%; RR, 0.64; HR, 0.60; P<0.001P < 0.001P<0.001.
- Five-year survival probability was higher with GLP-1 agonist use: 84.2% vs 77.7%.
- Sepsis was lower in the GLP-1 group: 6.2% vs 9.0%; RR, 0.69; HR, 0.64; P<0.001P < 0.001P<0.001.
- Atrial fibrillation was lower with GLP-1 agonist use: 3.4% vs 4.2%; RR, 0.82; HR, 0.76; P=0.001P = 0.001P=0.001.
- Transfusion requirements were lower: 3.8% vs 5.9%; RR, 0.64; P<0.001P < 0.001P<0.001.
- Hospitalization was lower: 11.1% vs 16.6%; RR, 0.67; P<0.001P < 0.001P<0.001.
- Venous thromboembolism was lower: 2.8% vs 4.0%; RR, 0.71; P<0.001P < 0.001P<0.001.
- Rates of coronary artery disease, bleeding, and stroke did not differ significantly.
- No AML transformation was observed in either cohort.

Table 1. Clinical Outcomes: GLP-1 vs No GLP-1

Outcome	GLP-1	No GLP-1	RR	P value
Mortality	8.3%	13.0%	0.64	<0.001
Sepsis	6.2%	9.0%	0.69	<0.001
Atrial fibrillation	3.4%	4.2%	0.82	0.001
VTE	2.8%	4.0%	0.71	<0.001
Transfusion	3.8%	5.9%	0.64	<0.001
Hospitalization	11.1%	16.6%	0.67	<0.001

Figure 1. Kaplan–Meier Analysis of Overall Survival: GLP-1 vs No GLP-1



CONCLUSION

- GLP-1 agonist use was associated with improved survival and lower rates of several clinical complications.
- Benefits were observed across infectious, cardiovascular, and thrombotic outcomes, with no increase in bleeding or stroke.
- These findings support further prospective studies of GLP-1 therapy in patients with essential thrombocythemia.

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