

Conference abstract

Glucagon-Like Peptide-1 Receptor Agonists and Cardiovascular Outcomes following Percutaneous Coronary Intervention in Patients with Obstructive Sleep Apnea

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INTRODUCTION

Obstructive sleep apnea (OSA) is associated with heightened cardiometabolic risk and adverse outcomes after percutaneous coronary intervention (PCI). Glucagon-like peptide-1 receptor agonists (GLP-1RA) improve glycemic control, promote weight loss, and reduce cardiovascular events in high-risk populations; however, their impact in patients with OSA undergoing PCI remains uncertain. We evaluated the association between GLP-1RA therapy and short- and long-term cardiovascular outcomes following PCI in patients with OSA.

METHODS

We conducted a retrospective cohort study using the TriNetX Research Network. Adults with OSA who underwent PCI were categorized based on documented GLP-1RA use. The primary outcome was 1-year all-cause mortality. Secondary outcomes included 30-day mortality, acute kidney injury (AKI), major adverse cardiac and cerebrovascular events (MACCE), heart failure (HF) hospitalization, repeat PCI, vascular complications, and major bleeding. One-to-one propensity score matching was performed to balance demographics, comorbidities, and baseline cardiometabolic therapies. Cox proportional hazards models and Kaplan–Meier analyses were used to estimate hazard ratios (HRs) and event rates.

RESULTS

After matching, 22,443 patients were included in each cohort. GLP-1RA therapy was associated with significantly lower 30-day mortality (0.6% vs 1.7%; HR 0.34, $p < 0.001$) and 1-year mortality (2.5% vs 6.2%; HR 0.38, $p < 0.001$). Thirty-day AKI was reduced (7.4% vs 8.4%; HR 0.87, $p < 0.001$). MACCE occurred less frequently at 30 days (33.2% vs 35.1%; HR 0.92, $p < 0.001$) and 1 year (43.6% vs 46.7%; HR 0.90, $p < 0.001$). Major bleeding was also lower at 30 days (1.0% vs 1.5%; HR 0.66, $p < 0.001$) and 1 year (3.7% vs 4.9%; HR 0.73, $p < 0.001$). No significant differences were observed in HF hospitalization, repeat PCI, or vascular complications at 30 days or 1 year (all $p > 0.05$), and time-to-event analyses demonstrated comparable hazards for first HF admission and repeat revascularization between groups.

CONCLUSIONS

In patients with OSA undergoing PCI, GLP-1RA therapy was associated with lower mortality, MACCE, AKI, and major bleeding, without increased revascularization or thrombotic risk. These findings support a potential role for GLP-1RA in secondary prevention among high-risk post-PCI populations with OSA.



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