Mid-Atlantic Clinical Research Symposium — Abstract Submission

Title (89 characters)

Emergency Department Use and Acute Gastrointestinal Outcomes With GLP-1 Receptor Agonists

Objectives

To determine whether adults treated with glucagon-like peptide-1 receptor agonists (GLP-1 RA) have higher emergency department (ED) utilization and differing risks of acute gastrointestinal and aspiration-related diagnoses compared with an active comparator.

Methods

Retrospective cohort study using TriNetX, a federated network of de-identified electronic health records from 116 US healthcare organizations. Adults aged 18 years or older with type 2 diabetes or obesity prescribed a GLP-1 RA (semaglutide, liraglutide, dulaglutide, exenatide, tirzepatide) were compared with those prescribed a sodium-glucose cotransporter-2 inhibitor (SGLT2i). An active comparator was used to reduce confounding by indication. Patients with prior use of the opposing drug class, bariatric surgery, gastroparesis, bowel obstruction, end-stage renal disease, or pregnancy were excluded. Index date was first prescription. Cohorts were matched 1:1 by propensity score on age, sex, hypertension, lipid disorders, obesity, and ischemic heart disease. Outcomes occurring more than one day after index were compared using risk ratios (RR) with 95% confidence intervals; patients with the outcome before the window were excluded.

Results

Matching yielded 529,318 patients per cohort with all standardized differences below 0.1. GLP-1 RA users had higher ED utilization (11.9% vs 10.5%; RR 1.13, 1.12-1.15) and more ED encounters per patient (mean 0.27 vs 0.24, $p<0.0001$). GLP-1 RA users had higher risks of nausea and vomiting (7.5% vs 6.0%; RR 1.25, 1.23-1.27), gastroesophageal reflux (11.9% vs 10.1%; RR 1.18, 1.16-1.19), abdominal and pelvic pain (10.9%

vs 9.5%; RR 1.15, 1.14-1.17), and functional intestinal disorders (7.3% vs 6.8%; RR 1.07, 1.05-1.08). Risks were lower for acute pancreatitis (0.48% vs 0.69%; RR 0.70, 0.67-0.74) and aspiration pneumonitis (0.58% vs 0.98%; RR 0.59, 0.57-0.62).

Conclusion

GLP-1 RA use was associated with modestly increased ED utilization and symptomatic gastrointestinal presentations, but not with increased acute pancreatitis or aspiration pneumonitis relative to SGLT2i users.