Boston CHEST 2024 October 6-9

Late-Breaking

SESSION TITLE: Obstructive Lung Disease Abstracts Posters (J)
SESSION TYPE: Original Investigation Posters
PRESENTED ON: 10/08/2024 01:45 pm - 02:30 pm

ASSOCIATION BETWEEN GLP1 AGONISTS/COAGONISTS AND RESPIRATORY OUTCOMES IN COPD PATIENTS: A RETROSPECTIVE COHORT STUDY

NUTCHAPON XANTHAVANIJ* XIN YA SEE TZE ERN ONG TSU-HSIEN WANG YU-CHENG CHANG CHUN-YU PENG YU CHANG KUAN-YU CHI AND CHO HAN CHIANG

PURPOSE: Recent studies showed that glucagon-like peptide 1 (GLP1) agonists may lower the risk of moderate to severe chronic obstructive pulmonary disease (COPD) exacerbations. However, the effects of GLP1 agonists on other respiratory outcomes were unknown. We aimed to focus on the impact of GLP1 agonists/co-agonists on respiratory outcomes in patients with both COPD and type 2 diabetes mellitus (T2DM) by performing large-scale retrospective cohort analysis.

METHODS: The study was conducted by using the TriNetX Analytics Network database, which included de-identified electronic health records from over 120 healthcare organizations worldwide. All adult patients aged more than 18 and diagnosed with COPD and T2DM between April 2005 and March 2023 were identified by the International Classification of Diseases 10th revision (ICD-10) codes and included in the study. Patients were categorized into two groups: patients who received GLP-1 agonists/co-agonists and those who received other T2DM medications.The index date was defined as the date of COPD diagnosis. Data collection started one year before the index date. All respiratory outcomes and safety outcomes were defined as incident or recurrent events occurring within 1 year after the index date and were identified by ICD-10 or TriNetX codes. The primary outcomes were all-cause mortality as well as incident COPD exacerbation, oxygen dependence, and pulmonary hypertension. The secondary outcomes were recurrent bronchitis, pneumonia, intubation, and pulmonary edema. Propensity score matching was performed at a 1:1 ratio to balance the distribution of important covariates including baseline demographics, relevant lab data, underlying comorbidities, and pertinent medication use. Cox proportional hazard was used to find the association between the use of GLP-1 agonist/co-agonist and each outcome, with p-value <0.05 indicating statistical significance. All analyses were done using built-in function of the TriNetX platform.

RESULTS: We included 393,106 patients with both COPD and T2DM. After propensity score matching, there were 28,447 patients in both GLP1 agonists/co-agonists and control groups with similar baseline characteristics. Cox proportional hazard analyses showed that GLP1 agonist/co-agonist group was associated with a lower all-cause mortality (HR, 0.54 [95% CI: 0.50-0.58]) and incident risk of COPD exacerbation (Hazard ratio (HR), 0.88 [95% CI: 0.81-0.96]), oxygen dependence (HR, 0.77 [95% CI: 0.70-0.84]), and pulmonary hypertension (HR, 0.78 [95% CI: 0.70-0.87]). Additionally, the use of GLP1 agonists/co-agonists was linked to lower recurrent risk of pneumonia (HR, 0.80 [95% CI: 0.75-0.84]), pulmonary edema (HR, 0.77 [95% CI: 0.70-0.85]), and intubation (HR, 0.64 [95% CI: 0.55-0.75]). For safety outcomes, there was a higher risk of gastroparesis (HR, 1.22 [95% CI: 1.00-1.48]) in the GLP-1 group. There were no differences in the risk of bowel obstruction, biliary disease, and pancreatitis between the two groups.

CONCLUSIONS: GLP1 agonists/co-agonists may provide respiratory and mortality benefits in patients with both COPD and T2DM.

CLINICAL IMPLICATIONS: The use of GLP-1 agonists/co-agonists in T2DM patients with COPD may improve the respiratory outcomes of patients. Future prospective study is warranted to confirm the respiratory effects and safety of GLP-1 agonists/co-agonists in this high-risk population.

DISCLOSURES:

No relevant relationships by Yu-Cheng Chang

No relevant relationships by Yu Chang

No relevant relationships by Kuan-Yu Chi

No relevant relationships by Cho Han Chiang

No relevant relationships by Tze Ern Ong

No relevant relationships by Chun-Yu Peng

No relevant relationships by Xin Ya See

No relevant relationships by Tsu-Hsien Wang

No relevant relationships by Nutchapon Xanthavanij

DOI: https://doi.org/10.1016/j.chest.2024.07.073