Boston CHEST 2024 October 6-9

Pulmonary Vascular Disease

SESSION TITLE: Beantown Breakthroughs: Advances in Pulmonary Hypertension
SESSION TYPE: Original Investigations
PRESENTED ON: 10/06/2024 01:30 pm - 02:30 pm

IMPACT OF SGLT2 INHIBITORS ON MORTALITY IN PULMONARY ARTERIAL HYPERTENSION: EXPLORING THE ASSOCIATION

IRAKLI LEMONJAVA NINO GUDUSHAURI IRAKLI TSKHAKAIA JOSE MANUEL MARTINEZ MANZANO AND ZURAB AZMAIPARASHVILI

PURPOSE: Sodium-glucose cotransporter-2 inhibitors (SGLT2i) reduce mortality rates among heart failure patients with reduced and preserved ejection fraction. Consequently, their potential benefits in treating group 2 pulmonary hypertension (PH) are being evaluated. However, the role of SGLT2i in patients with group 1 PH, also called pulmonary arterial hypertension (PAH), is largely unknown. We aim to evaluate the association between SGLT2i use and all-cause mortality in patients with PAH.

METHODS: We used the TrinetX platform to identify the cohorts and perform the statistical analysis.

We included patients older than 18 years diagnosed with PAH after January 1st, 2013, and stratified into two groups - Group A (SGLT2i group) comprised of patients using one of the following medications: Canagliflozin, Dapagliflozin, Empagliflozin or Ertugliflozin, while Group B (non-SGLT2i group) comprised patients who did not use these four medications. The primary outcome was to evaluate all-cause mortality at 1-, 3-, and 5-years following the index event. The index event was defined as the first day meeting all selected criteria, including diagnosis of PAH and initiation of medication of interest for Group A and diagnosis of PAH for Group B. Patients with outcomes before the study window were excluded from the analysis.

We performed propensity score matching, accounting for demographic characteristics and 10 distinct organ system disorders, encompassing respiratory and cardiovascular systems. After propensity score matching, Group A comprised 6,238 individuals, and Group B consisted of 6,243 individuals.

RESULTS: At 1-year follow-up, 506 (8.1%) patients in Group A (SGLT2i group) died, meanwhile the outcome was observed in 967 (15.5%) patients in group B (Non-SGLT2i group), comprising a 7.4% absolute risk reduction (RR 0.52, 95% CI 0.473 - 0.58, p-value <0.0001). The risk difference progressively increased to 9.2% (13% vs. 22.5%, RR 0.579, 95% CI 0.535 - 0.627, p-value <0.0001) and 10.4% (14.6% vs. 25%, RR 0.583, 95% CI 0.542 - 0.628, p-value <0.0001) at 3- and 5-year follow-ups, respectively.

CONCLUSIONS: The use of SGLT2i seemed to be associated with mortality reduction in patients with PAH. This benefit was already evident at 1 year and was sustained at 3- and 5-year follow-ups. Further research into this topic is warranted.

CLINICAL IMPLICATIONS: Studying the potential mortality benefit associated with SGLT2i use in patients with PAH requires randomized controlled trials. A ten percent absolute risk reduction at 5-year follow-up translates to a number needed to treat (NNT) of 10 to prevent one death, which could significantly impact long-term management strategies for PAH patients.

DISCLOSURES:

No relevant relationships by Zurab Azmaiparashvili

No relevant relationships by Nino Gudushauri

No relevant relationships by Irakli Lemonjava

No relevant relationships by Jose Manuel Martinez Manzano

No relevant relationships by Irakli Tskhakaia

DOI: https://doi.org/10.1016/j.chest.2024.06.3435