

Using clinical trial data to assess the impact of empagliflozin on non-cardiovascular hospitalizations in patients with heart failure

BACKGROUND:

Lower respiratory tract infections (LRTI) are a frequent complication for elderly patients with heart failure. Non-cardiovascular hospitalizations, including respiratory infections, cause around 50% of the hospitalizations in heart failure patients, making them comparable to cardiovascular hospitalizations in terms of health and resource use impact. However, little is known about the causes and associated prognosis of non-cardiovascular hospitalizations in patients with heart failure.

RESEARCHER QUESTION:

Dr. João Pedro Ferreira is a Professor in the Faculty of Medicine, University of Porto, Portugal. For this project, Dr. Ferreira's team aimed to study the potential impact of empagliflozin on LRTI.



Empagliflozin is a sodium-glucose cotransporter-2 (SGLT2) inhibitor, a class of medicines primarily used to lower blood sugar in adults with type 2 diabetes. The research team theorized that empagliflozin could reduce LRTI, due to its capacity to reduce oxidative stress and improve host defense mechanisms.

"This project was only possible through Vivli - really important work!" - João Pedro Ferreira

FINDINGS

Findings from this research indicate that LRTI was frequent in the cohort of enrolled participants, and associated with a poor prognosis. The total number of LRTI events was reduced in the empagliflozin group, compared to placebo.

IMPACT

This research has produced a journal publication, in the European Journal of Heart Failure. Dr. Ferreira also talked to Vivli about the importance of the findings. He noted that heart failure exacerbations and respiratory infections often go "hand-in-hand", so showing that empagliflozin can reduce the incidence of these is good news for patients.

He also suggested that in future heart failure trials, endpoints could be less strict: for example, heart failure hospitalization could be considered if a patient is hospitalized due to or for heart failure; and also if the patient is hospitalized with heart failure as a secondary event.

RESEARCH PROCESS:

To answer the question of whether empagliflozin use could reduce LRTI and hospitalization in patients with heart failure, the research team was able to access individual patient data (IPD) from 5,988 participants enrolled in the EMPEROR-Preserved trial and treated with either empagliflozin or placebo. Assessment focused on determining the association between hospitalization reason and subsequent mortality.

NEXT STEPS:

READ MORE

[Non cardiovascular hospitalizations in heart failure and preserved ejection fraction \(HFpEF\) and the effect of empagliflozin \(Vivli Data Request 8933\)](#)

[Empagliflozin and risk of lower respiratory tract infection in heart failure with mildly reduced and preserved ejection fraction: An EMPEROR-Preserved analysis \(European Journal of Heart Failure\)](#)

[Find out more about requesting data from Vivli.](#)