Hyperkalemia and ACEi/ARNI titration in the era of SGLT2 inhibitors

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Background:

Angiotensin-converting enzyme inhibitors (ACEi) and angiotensin receptor neprilysin inhibitors (ARNI) are key treatments for heart failure with reduced (HFrEF) and mildly reduced ejection fraction (HFmrEF). Both ACEi and ARNI can raise blood potassium levels, but no clear optimal potassium range exists for HFrEF and HFmrEF patients. SGLT2 inhibitors have been shown to reduce the risk of hyperkalemia in selected patients.

Aim:

The aim was to assess the prevalence of hyperkalemia in HFrEF and HFmrEF patients and its impact on achieving optimal medical treatment.

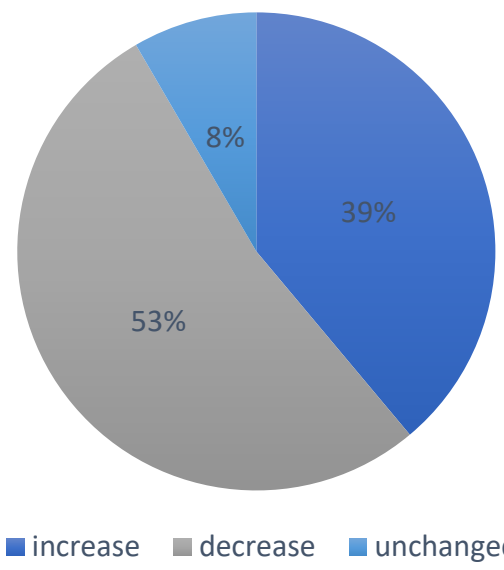
Patients and methods:

- registry-based study
- 764 patients with HFrEF and HFmrEF hospitalized at our center from September 2021 to December 2023
- the collected data included: gender, age, type of HF, potassium levels at admission and discharge, prescribed medications after discharge, data on ACEi/ARNI/SGLT2i, diuretic use
- the prevalence of hyperkalemia at the first follow-up visit between patients on ACEi or ARNI therapy who were also receiving SGLT2 inhibitors was compared
- levels above 4.7 mmol/L considered as a cut-off for high potassium in this study
- median age: 68 years old

Results:

- 22.8% of patients had high potassium levels and initially 2.4% of patients were not able to receive maximum dosage of ACE/ARNi because of hyperkalemia

Potassium levels after therapy implementation



References:

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2. Desai AS, Vardeny O, Claggett B, McMurray JJV, Packer M, Swedberg K, et al. Reduced Risk of Hyperkalemia During Treatment of Heart Failure With Mineralocorticoid Receptor Antagonists by Use of Sacubitril/Valsartan Compared With Enalapril. JAMA Cardiology. 2017 Jan 1;2(1):79.

Conclusion:

Hyperkalemia impacted ACEi and ARNI dosing in a small portion of patients. Despite ACEi and ARNI raising potassium levels, factors like diuretic use and SGLT2i inhibitors contributed to more patients experiencing a decrease in potassium levels.