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ABSTRACT BOOK

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Topic:

Cardiology > Chronic heart failure

Presentation Type:

Oral Presentation

Predictors Of Kidney Function Outcomes In Type 2 Diabetes Mellitus Patients With Chronic Heart Failure Treated With Dapagliflosin

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Background: Sodium-glucose cotransporter 2 inhibitors (SGLT2i) had a favorable impact on the kidney function in heart failure (HF) patients, while there is no clear evidence of what factors predict this effect. The aim of the study was to identify plausible predictors for kidney function outcome among HF patients and investigate their association with SGLT2i.

Methods: We prospectively enrolled 480 patients with established type 2 diabetes mellitus (T2DM) and concomitant chronic HF I-IV New York Heart Association functional classes and followed them for 52 weeks. In the study, we determined the kidney outcome as a composite of a sustained declined in estimated glomerular filtration rate by 40% from baseline, or newly end-stage of kidney disease, or kidney replacement therapy. The relevant medical information, measurement of the biomarkers (N-terminal natriuretic pro-peptide, irisin, apelin, adropin, C-reactive protein, tumor necrosis factor-alpha) were collected at baseline and at the end of the study.

Results: The composite kidney outcome was detected in 88 (18.3%) patients of entire population. All patients received guideline-recommended optimal therapy, which was adjusted to phenotype / severity of HF, CV risk and comorbidity profiles and fasting glycaemia. We noticed that irisin ≤ 4.50 ng/mL at the baseline and the increase in irisin serum levels ≤ 15% added more valuable predictive information than the reference variable. Yet, the combination of irisin ≤ 4.50 ng/mL at the baseline and the increase in irisin serum levels ≤ 15% (AUC = 0.91; 95% CI = 0.87–0.95) improved discriminative value of each biomarker alone.

Conclusions: we suggest that low levels of irisin and its inadequate increase during administration of SGLT2i are promising predictors for unfavorable kidney outcome among T2DM patients with concomitant HF.

Keyword: *Heart failure, Type 2 diabetes mellitus, Chronic kidney disease, Kidney outcomes, Biomarkers*