

**Key words:** sleep apnea, cardiac pathologies, major cardiovascular events, arrhythmias, cardiac blocks

#### **45. THYROID FUNCTION AND CHRONIC KIDNEY DISEASE IN HEART FAILURE PATIENTS**

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**Introduction.** In the last years, the global prevalence of the moderate-severe renal dysfunction has gradually increased to an epidemic state. The risk of chronic kidney disease occurrence in heart failure (HF) is not well established, but kidney dysfunction is very often encountered in HF patients and is associated with a poor prognosis. Thyroid hormone, also, has been identified as a risk factor for the heart disease progression and development.

**Aim of the study.** To investigate whether thyroid function is associated with chronic kidney disease in heart failure patients.

**Materials and methods.** This observational cohort study included 25 patients with reduced ejection fraction heart failure CKD. Routine biochemistry, including Cysteine C, thyroid stimulating hormone(TSH) and proteinuria were measured. Glomerular filtration rate (GFR) was estimated by the CKD-EPI CYSTETIN C based formula adjusted for Body Surface Area. We divided patients into two groups according to estimated GFR:  $\geq 60$ ml/min (CKD stages I-II KDOQI); and  $< 60$ ml/min(CKD stages III-V KDOQI).

**Results.** Among 26 adult participants, 15 had moderate-to-severe decrease in  $eGFR < 60$  ml/min with a mean TSH level of  $7.4 \pm 3.28$  UN/ml ( $p < 0.05$ ); Cystetine C of  $1.15 \pm 0.07$  mg/L; mean ejection fraction (EF) of  $43.4 \pm 2.84\%$  level; uric acid level  $446.2 \pm 81.27$  mmol/L; total cholesterol –  $7.95 \pm 3.37$  mmol/L; triglycerides 2.19 mmol/L and 0.12 g/l proteins in urine. 11 subjects had elevated, normal or mild decrease in  $eGFR \geq 60$  ml/min; a mean TSH level of  $2.2 \pm 0.65$  UN/ml ( $p < 0.01$ ); Cystetine C of  $1.74 \pm 0.13$  mg/L; mean ejection fraction(EF) of  $42 \pm 2.77\%$ ; uric acid level  $235.5 \pm 113.5$  mmol/L total cholesterol –  $7.95 \pm 3.37$  mmol/L; triglycerides 2.19 mmol/L, and 0.07 g/l proteins in urine. Compared with participants with an estimated GFR  $\geq 60$  ml/min, those with estimated GFR  $< 60$  ml/min had an increased rate of subclinical primary hypothyroidism, higher levels of uric acid, total cholesterol and triglycerides.

**Conclusions.** Our results suggest that subclinical hypothyroidism is associated not only with heart failure but also with CKD, and may be considered as a novel risk factor of reduced renal function. Further studies are needed to better understand the causal implications of hypothyroidism in CKD patients.

**Key words:** thyroid function; chronic kidney disease; heart failure; glomerular filtration rate

#### **46. THE IMPACT OF STATINS ON THE METABOLISM OF PATIENTS WITH CARDIOVASCULAR DISEASE**

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**Introduction.** Statins are a class of lipid-lowering medications, also known as HMG-CoA reductase inhibitors. They are considered one of the most popular prescribed agents worldwide for treatment of hypercholesterolemia. Statins are effective drugs to reduce cardiovascular events