

wiener klinische wochenschrift

The Central European Journal of Medicine

132. Jahrgang 2020 · Supplement 5

Wien Klin Wochenschr (2020) 132 :S153–S329
<https://doi.org/10.1007/s00508-020-01749-z>
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Nature 2020



ÖG HTG

Österreichische Gesellschaft für
Herz- und thorakale Gefäßchirurgie



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Österreichische
Kardiologische
Gesellschaft

Abstracts

Österreichische Kardiologische Gesellschaft Jahrestagung 2020

mit Beteiligung der Österreichischen Gesellschaft für Herzchirurgie und
thorakale Gefäßchirurgie

Salzburg, 1. bis 3. November 2020

Tagungspräsident:

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(NRI=0.163; $p=0.04$). Patients in the highest risk category of CERT as compared to the lowest category had a HR of 3.63 [2.09–6.30] for cardiovascular death; for CERT-2 the corresponding HR was 6.02 [2.47–14.64]. Among patients with T2DM ($n=322$), the HR for cardiovascular death was 3.00 [1.44–6.23] using CERT and 7.06 [1.64–30.50] using CERT 2; the corresponding HRs among non-diabetic subjects were 2.99 [1.20–7.46] and 3.43 [1.03–11.43], respectively.

Conclusion: We conclude that both, CERT and CERT-2 scores are powerful predictors of cardiovascular mortality in CVD patients, especially in those patients with T2D. Performance is even higher with CERT-2.

PS 7/7-3

Value of total cholesterol earlier versus later in life to predict cardiovascular death

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Introduction: Prognostic implications of blood cholesterol may differ at different stages of life. This study compares the value of total cholesterol (TC) earlier versus later in life to predict coronary atherosclerosis and fatal as well as non-fatal cardiovascular events.

Methods: In a cardiovascular observation study (CVOS) we performed coronary angiography and prospectively recorded cardiovascular events in 1090 patients over up to 19 years. These patients had participated in a health survey 15 years prior to the CVOS baseline. TC was measured both at the health survey and at the baseline of the CVOS and categorized into four groups, according to SCORE charts of the current ESC/EAS guidelines.

Results: Patients in the highest versus the lowest TC-category of the health survey had an OR of 4.38 [2.46–7.81]; $p=0.001$ for significant CAD at angiography, a HR of 1.80 [1.13–2.85]; $p=0.013$ for cardiovascular events, and a HR of 8.03 [1.11–57.98]; $p=0.039$ for cardiovascular death after multivariate adjustment. In contrast, TC as measured at the baseline of the CVOS was neither significantly associated with significant CAD nor with cardiovascular events or death during follow-up. In addition, the ESC/EAS-SCORE was found to be more powerful in predicting cardiovascular death when using earlier instead of later TC, with a continuous net reclassification improvement of 0.301 ($p < 0.001$).

Conclusion: We conclude that TC assessed earlier in life is a better predictor of cardiovascular risk than TC assessed later in life, over and above other cardiovascular risk factors, enabling earlier therapy of patients at risk.

PS 7/7-4

Type 2 diabetes, congestive heart failure and non-alcoholic fatty liver disease

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Introduction: Non-Alcoholic fatty liver disease (NAFLD) is associated with both type 2 diabetes (T2DM) and congestive heart failure (CHF). T2DM is highly prevalent in CHF patients; however, the single and joint associations of T2DM and CHF with NAFLD have not been investigated yet. This issue therefore is addressed in the present study.

Methods: We investigated 202 patients with CHF and 670 controls who did not have signs or symptoms of CHF and in whom significant coronary artery disease was ruled out angiographically. The presence of NAFLD was determined using the validated fatty liver index (FLI).

Results: The prevalence of T2DM was 47.0 % in CHF patients and 22.1 % in controls ($p < 0.001$). FLI and prevalence of NAFLD (FLI ≥ 60) in non-CHF subjects without T2DM were 49 ± 28 and 38.6 %, respectively. They were significantly higher in non-CHF T2DM patients (70 ± 25 , $p < 0.001$ and 68.5 %, $p < 0.001$, respectively), in CHF patients without T2DM (63 ± 23 , $p < 0.001$ and 58.6 %, $p < 0.001$, respectively) and in CHF patients with T2DM (73 ± 24 , $p < 0.001$ and 78.0 %, $p < 0.001$, respectively). In multivariate analysis of covariance, T2DM and CHF proved to be mutually independent predictors of FLI after adjustment for age, sex, BMI, LDL-C, history of smoking and hypertension ($F=21.47$; $p < 0.001$ and $F=53.92$; $p < 0.001$, respectively); concordantly, T2DM and CHF independently predicted the presence of NAFLD in logistic regression analyses, with adjusted odds ratios of 2.49 [1.55–3.99]; $p < 0.001$ and 6.97 [3.95–12.29]; $p < 0.001$, respectively.

Conclusion: We conclude that T2DM and CHF are mutually independent predictors of NAFLD.

PS 7/7-5

Effects of exercise training on lipid accumulation product and matrix metalloproteinase 9 in patients with small abdominal aortic aneurysms

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