



Prevention and Health Promotion

SERUM CHOLESTEROL EARLIER VERSUS LATER IN LIFE AS A PREDICTOR OF CAD AND CARDIOVASCULAR MORTALITY

Moderated Poster Contributions

Monday, May 17, 2021, 12:45 p.m.-12:55 p.m.

Session Title: Novel Markers of Cardiovascular Risk

Abstract Category: 38. Prevention and Health Promotion: Lipids

Presentation Number: 1063-05

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Background: 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.