PLASMA CHEMERIN IS A STRONG AND INDEPENDENT PREDICTOR OF CARDIOVASCULAR EVENT RISK

Poster Contributions
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Background: Associations of the adipokine chemerin with the metabolic syndrome (MetS) and with chronic kidney disease (CKD), two important indicators of increased cardiovascular event risk, have been described. However, the power of chemerin to predict cardiovascular events has not been investigated so far and is addressed in the present study.

Methods: We measured plasma chemerin in a high-risk cohort of 495 patients undergoing coronary angiography for the evaluation of suspected or established coronary artery disease (CAD) in which cardiovascular events were prospectively recorded over 3.5±1.1 years. Significant baseline CAD was diagnosed in the presence of coronary artery stenoses ≥50%.

Results: At baseline, plasma chemerin was significantly higher in patients with the MetS as defined by the current harmonized consensus definition (n=147) than in non-MetS subjects (201±71 ng/ml versus 163±62 ng/ml p<0.001) and was inversely correlated with estimated glomerular filtration rate (eGFR; r=-0.33, p<0.001). During follow-up, chemerin significantly predicted cardiovascular events (n=82) univariately, after adjustment for age, gender, body mass index, and eGFR, and also after additional adjustment for the presence of significant baseline CAD, with standardized hazard ratios of 1.83 [1.19-2.83], p=0.006; 1.77 [1.12-2.80], p=0.015; and 1.69 [1.07-2.67], p=0.024, respectively.

Conclusion: From this first prospective evaluation of the cardiovascular event risk associated with chemerin we conclude that chemerin is strongly predictive of cardiovascular events independently from standard risk factors, from the MetS, and from the baseline presence of CAD.