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Cardiovascular risk assessment beyond Systemic Coronary Risk Estimation: a role for organ damage markers.

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Abstract

BACKGROUND:
Cardiovascular risk assessment in the clinical practice is mostly based on risk charts, such as Framingham risk score and Systemic Coronary Risk Estimation (SCORE). These enable clinicians to estimate the impact of cardiovascular risk factors and assess individual cardiovascular risk profile. Risk charts, however, do not take into account subclinical organ damage, which exerts independent influence on risk and may amplify the estimated risk profile. Inclusion of organ damage markers in the assessment may thus contribute to improve this process.

OBJECTIVE:
Our aim was to evaluate the influence of implementation of SCORE charts with widely available indexes of organ damage, with the purpose to ameliorate individual risk assessment.

METHODOLOGY:
We searched www.Pubmed.gov for evidence about the predictive value of left ventricular hypertrophy (LVH), estimated glomerular filtration rate (eGFR), microalbuminuria (MAU) and metabolic syndrome on different risk profiles estimated by SCORE. Interventional and observational trials including at least 200 patients and published after 2000 were selected.

RESULTS:
The presence of organ damage as well as the number of abnormal parameters indicating organ damage is associated with increased cardiovascular risk, independently of SCORE. In the area of high risk, the impact of different markers of organ damage is heterogeneous. Combined risk models of SCORE and subclinical organ damage have major impact on risk stratification and may impact on recommendation in primary prevention in all SCORE categories.

CONCLUSION:
Available evidence suggests a tangible clinical advantage of adding the evaluation of simple organ damage markers to risk charts in cardiovascular risk prediction.