Genetic screening could reveal hidden high risk for coronary heart disease

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Finnish researchers have shown that genetic marker information can improve risk evaluation of coronary heart disease. The study comprised over 24,000 Finnish subjects and was led by Professor Samuli Ripatti. The results revealed that a panel of 28 genetic markers improved detection of individuals with high risk for coronary heart disease (CHD) (10-year risk ≥20%) over traditional risk factors.

Identification of high-risk individuals is an important preventive strategy for CHD, because the current guidelines recommend statin treatment for the high-risk group. "The results indicate that genetic markers could be useful in CHD prevention, when used in addition to traditional risk factor screening", said Professor Veikko Salomaa from National Institute for Health and Welfare. The study shows that genetic screening of individuals at intermediate risk (10-20%) based on traditional risk factors would reclassify 12% of them into the high-risk group. "Statin treatment of the reclassified individuals could prevent hundreds or even thousands of CHD events in Finland. The results are based on large population cohorts but should nevertheless be tested in a clinical setting. Pilot projects studying the effect of this new genetic information on health behavior are now being carried out", said Professor Samuli Ripatti.

Genetic markers improved prediction more efficiently than family history of the disease. Information on family history has been used to reflect genetic risk and it is commonly used in CHD risk evaluation. The results of the study demonstrate the potential for genetic screening of

CHD in combination with traditionally screened risk factors in Finland.

More information: Tikkanen, E. et al. Genetic Risk Prediction and a 2-Stage Risk Screening Strategy for Coronary Heart Disease, *Arterioscler Thromb Vasc Biol*. 2013 Apr 18.

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