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This international study will be published on the 17th of May in the prestigious Lancet journal

New evidence questions the direct link between the amount of "good cholesterol" and the risk of suffering a heart attack

Results stress that the protective role of HDL cholesterol wouldn't be in its quantity, but in its quality.

The study has analyzed genetic features linked to cholesterol (HDL and LDL) and the risk of suffering a heart attack in 115,000 people.

Barcelona, 15th May 2012.- An international collaborative study with the participation of researchers from the **IMIM (Hospital del Mar Research Institute)**, has studied whether the link between the levels of HDL cholesterol, commonly called "good cholesterol" and the risk of suffering an acute myocardial infarction is or isn't causal, by using genetic biomarkers.

Causal link refers to when a biomarker participates directly in the process leading to a disease, and this study has shown that the link between HDL cholesterol and the risk of an infarction is not causal. This information will be a key element to design new drugs, since **contrary to what was believed until now drugs increasing the amount of "good cholesterol" do not necessarily reduce the risk of a heart attack.**

In this study, a genetic feature that increases the levels of "good cholesterol" (HDL) has been analyzed, without influencing the levels of "bad cholesterol" (LDL) or triglycerides. In the study it was observed that this feature increases the amount of "good cholesterol" by 2.5 mg/dL and, in accordance with epidemiological studies, there would be an expected 13% less risk of suffering a heart attack. However, **after studying more than 115,000 people, it has been seen that people carrying this feature which increases "good cholesterol" do not actually have a lower risk of having an attack.**

Clinical testing with drugs and the study of some genetic diseases, such as familial hypercholesterolemia, has shown that high levels of "bad cholesterol" or LDL are part of the process causing a myocardial infarction. Therefore, drugs that reduce the levels of LDL cholesterol also reduce the risk of having a myocardial infarction. ***"Nevertheless, this type of evidence supporting the causal link between levels of good cholesterol or HDL and myocardial infarction does not exist. In clinical tests with drugs that increase the levels of "good cholesterol" we have not seen a reduction in the risk of having a myocardial infarction"*** explains Roberto Elosua, the coordinator of the IMIM research group on epidemiology and cardiovascular genetics.

These results question the effectiveness of interventions with life styles or with drugs increasing the levels of HDL cholesterol. In this regard, studies are been made with aspects that do not relate to the amount of HDL cholesterol, but with the quality of this cholesterol that could have a causal link to the risk of having an infarction.

In any case, says Elosua "***It is important to underline that the levels of HDL Cholesterol are a biomarker that is linked to a lower risk of having a heart attack and, even if this link is not causal, it is nevertheless useful in clinical praxis to estimate the risk of somebody having a myocardial infarction in the future.***"

Reference Article

"*Plasma HDL cholesterol and risk of myocardial infarction: a mendelian randomization study.*" Voight BF et al. Lancet 2012. DOI 10.1013/S0140-6736(12)60312-2

For further information

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