

Re: Its the HDL; the LDL doesn't matter much (for diabetics)

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- *From:* Goldentouchman@xxxxxxxxxx
 - *Date:* 20 Jun 2006 10:38:45 -0700
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adam_becker_sr@xxxxxxxxxx wrote:

A recent study (it was published last year but they recently made fulltext access to it free) show for coronary patients:
The influence of (HDL + triglycerides + apolipoprotein A1, and LDL particle diameter) significantly predicted both atherosclerosis (CAD) and heart attack.

HDL is inversely related to triglycerides. This ratio is related to LDL particle size.

This would indicate that LDL particle size and HDL are important.

Once those factors were accounted for, the remaining factor (LDL + TC + ApoB) didn't significantly predict either CAD or heart attack.

Not all LDL is equal and so looking at total LDL only can be a mistake.

I find the study interesting, but I have to scratch my head. Why on EARTH would somebody do a study on diabetics and heart attack and NOT PUT A1C as one of the factors in the factor analysis? They broke their population into Normal / Impaired FG / Diabetic. But they didn't factor in A1c beyond that. Why not? They must have had the number, right?

Probably for the same reason it isn't used in diagnosis or should not be. Falsely low values can occur.

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I wish they'd measured inflammation (by CRP or some other marker) as well.

The point being that one should not be a reductionist when it comes to risk factors but include more factors. So the study to reduce or get the highest predictors is suspect.

Adam Becker

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<http://care.diabetesjournals.org/cgi/content/abstract/28/1/101>

Is Atherosclerosis in Diabetes and Impaired Fasting Glucose Driven by Elevated LDL Cholesterol or by Decreased HDL Cholesterol?

To evaluate the atherogenicity of lipids in coronary patients with normal fasting glucose (NFG), impaired fasting glucose (IFG), and type 2 diabetes.

RESEARCH DESIGN AND METHODS—Serum lipid values, the presence of angiographic coronary artery disease (CAD) at baseline, and the incidence of vascular events over 2.3 years were recorded in 750 consecutive patients undergoing coronary angiography.

RESULTS—Triglycerides significantly ($P < 0.001$) increased and HDL cholesterol ($P < 0.001$) as well as LDL particle diameter ($P < 0.001$) significantly decreased from subjects with NFG < 5.6 mmol/l ($n = 272$) over patients with IFG $= 5.6$ mmol/l ($n = 314$) to patients with type 2 diabetes ($n = 164$). Factor analysis revealed two factors in the lipid profiles of our patients: triglycerides, HDL cholesterol, apolipoprotein A1, and LDL particle diameter loaded high on an HDL-related factor, and total cholesterol, LDL cholesterol, and apolipoprotein B loaded high on an LDL-related factor. In patients with type 2 diabetes, the HDL-related factor (odds ratio 0.648 [95% CI 0.464–0.904]; $P = 0.011$), but not the LDL-related factor (0.921 [0.677–1.251]; $P = 0.597$), was associated with significant coronary stenoses $= 50\%$. Consistently, in the prospective study, the HDL-related factor (0.708 [0.506–0.990]; $P = 0.044$), but not the LDL-related factor (1.362 [0.985–1.883]; $P = 0.061$), proved significantly predictive for vascular events in patients with type 2 diabetes.

CONCLUSIONS—The low HDL cholesterol/high triglyceride pattern is associated with the degree of hyperglycemia. In coronary patients with type 2 diabetes, this pattern correlates with the prevalence of CAD and significantly predicts the incidence of vascular events.

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