Should Triglyceride Be Target To Reduce CVD Events?

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The serum triglyceride concentration can be stratified in terms of coronary risk. Normal <150 mg/dL , Borderline high 150 to 199 mg/dL , High 200 to 499 mg/dL , Very high ≥ 500 mg/dL .

The role of triglycerides in promoting cardiovascular disease (CVD) is still debated more than 60 years after a relationship was first postulated. Recent data focusing on the potential importance of nonfasting triglyceride levels seem to settle this debate by establishing a consistent strong relation of triglycerides with CVD risk. A recent meta-analysis using 29 prospective studies conducted in Western populations again noted that TG concentrations were an independent risk factor for coronary heart disease in both sexes. Moreover change in TG concentrations has been shown to result in change in the risk of developing incident coronary heart disease. However two important questions remain unanswered.

1) How can distinguish the effects of triglycerides on CHD risk from that of low HDL-C, or from that of insulin resistance per se?

2) Is it appropriate to adjust for HDL-C, which is strongly inversely correlated with triglycerides and also biologically linked to insulin resistance in multivariable analyses?

Recommendations for the therapy of hypertriglyceridemia have been limited by previously inconsistent epidemiologic studies, the interrelationship between triglycerides with HDL and other risk factors, and the lack of conclusive data that triglyceride lowering can reduce CHD risk .A major question in management is whether therapy should be directed solely toward reduction of triglyceride levels or toward the modification of associated abnormalities of intermediate-density lipoprotein, LDL, and HDL cholesterol. The benefit of treating mild-to-moderate elevations in triglyceride levels is less clear.

A recent meta-analysis reported that fibrates as a class substantially decrease triglycerides and have more modest effects on LDL, HDL, and total cholesterol compared with placebo. As a class, fibrates also considerably reduce the number of nonfatal myocardial infarctions, but do not seem to greatly affect all-cause mortality. It is important to note that statins lower all - cause mortality, with relative risks between 0.78 and 0.89, depending on the statin. This important effect on all-cause mortality is not shared with the fibrates. A report from ACCORD trial noted that in patients with type 2 diabetes the combination of fenofibrate and

simvastatin did not reduce the rate of fatal cardiovascular events, nonfatal myocardial infarction, or nonfatal stroke, as compared with simvastatin alone.

Current recommendations are not supported by high quality evidence. European Atherosclerosis Society recommend nonpharmacologic therapy for serum triglyceride values above 200 mg/dL .The National Cholesterol Education Program (NCEP; Adult Treatment Panel [ATP] III) recommended that in all patients with borderline high or high triglycerides, the primary goal of therapy is to achieve the targets for LDL cholesterol . When triglycerides are borderline high (150 to 199 mg/dL), emphasis should be upon weight reduction and increased physical activity. When triglycerides are high (200 to 499 mg/dL), non-HDL cholesterol becomes a secondary target of therapy after LDL cholesterol. In addition to nonpharmacologic therapy, drug therapy can be considered in high-risk patients, including those who have had an acute myocardial infarction, to reach the non-HDL cholesterol goals. These goals may be achieved by intensifying therapy with an LDL cholesterol lowering drug, or by adding nicotinic .It is noteworthy that at least in type 2 diabetic patients, recent data do not support the routine use of combination therapy with fenofibrate and simvastatin to reduce cardiovascular risk. More conclusive evidence are needed to resolve the issue.