AHA Redefines Triglyceride Target as 100 mg/dL

BY JENNIE SMITH

FROM CIRCULATION

Triglyceride levels, which play a large role in both atherosclerotic risk and metabolic health, are highly responsive to decreases in dietary sugar intake and saturated and trans fat intake, along with increases in omega-3 acid intake and exercise, according to a scientific statement from the American Heart Association.

"What's new is that we point out that triglycerides might be considered a marker for metabolic health," Dr. Neil J. Stone of Northwestern University, Chicago, vice chair of the statement's writing group, said in an interview. "If you have a country where you're seeing more obesity and more diabetes, it becomes important for people to start asking themselves 'are there signs that I should be doing something different?' and this is one," he said.

The scientific advisory, citing some 528 sources, was not presented as a clinical guideline so much as a distillation of 30 years worth of evidence on the complex relationship among lifestyle factors, triglycerides, and cardiovascular and metabolic health (Circulation 2011 [doi:10.1161/CIR.0b013e3182160726]).

However, the authors, led by Dr. Michael Miller, director of the Center for Preventive Cardiology at the University of Maryland, Baltimore, included a number of recommendations on diagnosing and treating hypertriglyceridemia, focusing on dietary and lifestyle changes.

The statement emphasizes the "increasingly crucial role" of triglycerides in the evaluation and management of cardiovascular disease, and the importance of diet – including consumption of sugars common in beverages – in contributing to unhealthy triglyceride levels.

Reductions of 50% or more are achievable without the use of medication – indeed medication is not a widely accepted strategy for reducing triglycerides except among people with values of greater than 500 mg/dL. "The subject of medication and triglycerides is still lacking crucial clinical trial evidence," Dr. Miller and colleagues wrote in their analysis, noting that certain medications, including hormonal treatments, can also contribute to elevated triglycerides.

About a third of American adults have elevated triglyceride levels, which are defined as fasting triglyceride of 150 mg/dL or higher. The authors recommended that optimal fasting triglyceride levels now be defined as 100 mg/dL – and that clinicians screen initially for nonfasting triglyceride, defining normal at below 200 mg/dL. People with higher nonfasting levels may then be further screened for fasting triglyceride.

The new dietary recommendations include restricting added dietary sugar to 5%-10% percent of calories consumed. In support of this, the authors cited a study of 6,113 U.S. adults showing that the lowest triglyceride levels were observed when added sugar represented less than 10% of total energy, and that higher triglyceride levels corresponded with added sugar accounting for a greater proportion of energy intake (JAMA 2010;303:1490-7).

The authors singled out fructose as particularly problematic. Fructose in excess of 100 g/day, and possibly in excess of 50 g/day, has been associated with raised triglyceride levels. A typical can of cola or lemon-lime soda contains more than 20 g of fructose, the authors noted.

Dr. Miller and his colleagues advocated weight loss of 5%-10% of body weight, which is associated with a 20% reduction in triglycerides, and regular aerobic exercise, to reduce triglyceride levels closer to optimal. They also promoted increasing dietary fiber, keeping saturated fat below 7% of calories, eliminating trans fat from the diet, and increasing omega-3 polyunsaturated fatty acid consumption in the form of marine fish.

Funding for the statement was provided by the American Heart Association. Dr. Miller declared no conflicts affecting the drafting of the statement. Dr. Stone and the report's third author, Dr. Christie Ballantyne of Baylor College of Medicine in Houston, disclosed support from pharmaceutical industry sources. Other coauthors and some reviewers disclosed additional support from pharmaceutical and agricultural firms. ■

VIEW ON THE NEWS

Link to Cardiovascular Risk Is Weak

While epidemiological studies have shown triglycerides to be an independent risk factor for cardiovascular disease, most of the residual risk associated with hypertriglyceridemia tends to disappear after controlling for HDL cholesterol. Current National Cholesterol Education Program guidelines do not identify triglycerides as a specific target, except when levels are extremely elevated. Drugs that reduce triglycerides may also affect other lipoprotein concentrations, and clinical trial evidence demonstrating that triglyceride reduction decreases cardiovascular risk is lacking. For example, analysis of the VA-HIT trial showed that coronary event reduction was due to increases in HDL cholesterol achieved with the study drug and was not associated with reductions in triglycerides (JAMA 2001;285:1585-91).

Thus, while the AHA statement's stringent dietary and lifestyle recommendations should have healthful effects, the evidence linking the expected decrease in triglycerides to cardiovascular benefit is weak.

Perhaps the high prevalence of hypertriglyceridemia in patients with the metabolic syndrome accounts for the intensity of these recommendations, in which case I applaud this attempt.

ANTONIO M. GOTTO JR., M.D., *is the dean of Weill Cornell Medical College, New York. He is a consultant for AstraZeneca, KOWA, and Merck; is on the Board of Directors for Aegerion Pharmaceuticals and Arisaph Pharmaceuticals; and is on advisory boards for DuPont and Vatera Capital.*