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PERSONAL HEALTH

Jane E. Brody

Yet Another Reason to Fight the Fat

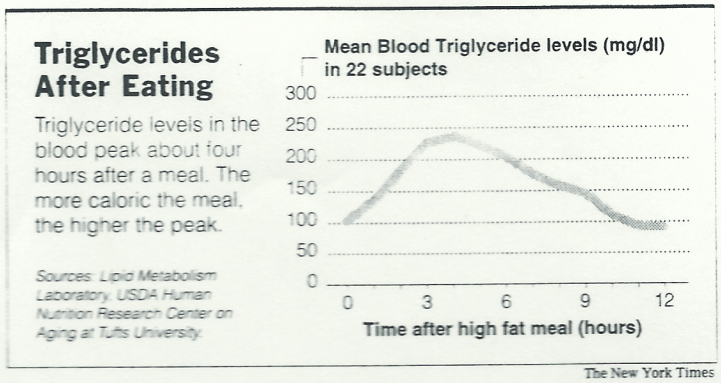
DO you know your triglyceride level? New evidence strongly suggests that it is time to add triglycerides to the substances in the blood that influence your chances of developing heart disease.

Triglycerides are basic particles of fat carried through the bloodstream by various molecules. They are derived from fats eaten in food or made in the body from other energy sources like carbohydrates.

The new evidence indicates that blood levels of triglycerides that have long been considered "normal" — 200 milligrams in 100 milliliters of blood serum — are actually too high and should be monitored and controlled along with other coronary risk factors.

Researchers at the University of Maryland Medical Center in Baltimore have found significant cardiac risks above 100 milligrams. They say long-standing uncertainties about the importance of triglycerides arose in part from mistaken assumptions about where to draw the line between safe and hazardous levels.

The new studies also call into question the way triglyceride levels are measured, after a 12-hour fast. Dr. Michael Miller, who directed the Baltimore study, said the level achieved after a fatty meal might tell more about a person's chances of developing clogged arteries.



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New Limits of Safety

The National Cholesterol Education Program lists 200 milligrams as a normal blood level of triglycerides. Levels of 200 milligrams to 400 milligrams are considered borderline, warranting changes in diet to bring them down.

Drug therapy to lower triglycerides, according to the national guidelines, should be reserved for those with levels higher than 400 milligrams as well as those with levels of 200 to 400 who have other coronary risk factors like smoking, diabetes and high cholesterol.

However, the Baltimore study found that those with triglyceride levels at or above 100 milligrams (as measured after a 12-hour fast) were 50 percent more likely than those with levels below 100 to suffer heart attacks, need bypass surgery or angioplasty or die from heart disease. This study, which followed 350 men and women for 18 years, was published in May in The Journal of the American College of Cardiology.

Dr. Miller, director of preventive cardiology at the University of Maryland, said his was just one of several recent studies "suggesting that we may have been missing the big picture" regarding triglycerides, because clinicians and medical researchers had failed to look low enough when they assessed the contribution of triglycerides to coronary risk.

Furthermore, researchers had assumed that if high triglyceride levels were hazardous, the higher the level the greater the risk would be. But this is not always the case. In fact, some people with very high triglyceride levels — 1,000 milligrams or more — are no worse off than those with levels of 200.

Further complicating the picture, when triglyceride levels go up, blood levels of protective HDL-cholesterol go down, suggesting that low HDL's, not high triglycerides, are really responsible for any increased coronary risk found in people with high triglycerides.

"We showed that a fasting triglyceride level above 100 milligrams is an important risk factor independent of the level of HDL's," Dr. Miller said.

An earlier finding from the decades-long Framingham Heart Study had also shown that in women and in people over 65, rising triglyceride levels increased coronary risk independent of any cholesterol measurements.

And a Danish study of 3,000 initially healthy middle-aged and elderly men found that the risk of suffering a first heart attack rose substantially when triglyceride levels were above 140, regardless of HDL levels.

In a report in March in the journal Circulation, the team from Copenhagen University Hospital reported that the Danish men with the highest triglyceride levels were more than twice as likely to suffer a heart attack as those with the lowest levels.

Finally, in an analysis published last year in the Journal of Cardiovascular Risk that combined the results of 17 triglyceride studies among a total of 46,413 men and 10,864 women who had been followed for years, Dr. John E. Hokanson and Dr. Melissa A. Austin of the University of Washington in Seattle reported, "Triglyceride is a risk factor for cardiovascular disease for both men and women in the general population, independent of HDL."

Missing from this impressive set of data is a large long-term study showing that reducing triglyceride levels that are above 100 or even 200 milligrams can prevent serious heart problems. It took studies like this to convince physicians and the public that it was worth the money and effort to lower cholesterol levels. Small studies indicate that lowering high triglycerides may be as effective in preventing coronary artery disease as lowering the level of heart-damaging cholesterol.

In the Meantime . . .

Some people with extremely high triglyceride levels do not get heart disease because their triglyceride complexes are too large to damage arterial cells, whereas others with much lower levels are in danger because their triglyceride complexes are small.

Triglyceride levels in the blood reach their peak about four hours after a meal; the more caloric the meal, the higher the peak and the longer it takes the body to clear excess triglycerides from the blood. And, since triglycerides raise the risk of clotting, having too much in the blood for too long could precipitate a heart attack.

Diets high in saturated fats (from meats and dairy foods), sugars (including natural sugars in fruit), alcohol and refined carbohydrates (white bread, white rice, etc.) can raise blood levels of triglycerides. If people on a very low-fat diet replace fats with sugars and refined starches, triglyceride levels may rise and protective HDL's fall.

Some experts say that if weight is not a problem, it may be better to replace artery-clogging saturated fats with heart-healthy olive and canola oils and to eat more fish rich in omega-3 fatty acids like mackerel, sardines, herring, bluefish and salmon.

Being overweight (particularly fat around the middle) and sedentary also contribute to high levels of triglycerides. The treatment here is obvious: eat fewer calories and burn more through exercise. It is also better both for reducing triglyceride levels and weight to consume many small nutritious meals a day instead of a few large ones. Triglyceride levels may also rise somewhat in postmenopausal women who take estrogen by mouth and in people who take bile acid sequestrants, a common medication for lowering cholesterol.

If changes in diet, weight loss and exercise fail to bring elevated triglycerides down to a safe level, effective drug treatment is available.