

## Grape seeds sow cholesterol benefits

First there was oat bran. Then rice bran. Later psyllium and barley. In the quest for yet another nutritional weapon against worrisome serum cholesterol levels, a preventive cardiologist has hit upon a rather surprising candidate: grape seed oil.

This natural fat, sometimes marketed as a gourmet alternative to olive oil, is extracted from the seeds left over from grapes pressed to make juice or wine. It caught the attention of David T. Nash when, dining with his wife in a South Carolina restaurant, he noticed that the menu touted entrees prepared with the allegedly heart-healthy fat. When the proprietors couldn't cite any studies to justify their claim, he decided to investigate the tasty oil himself.

Nash, of the State University of New York Health Science Center in Syracuse, recruited 23 men and women with elevated serum cholesterol levels and supplemented their already low-fat diets with 1 ounce of grape seed oil daily for four weeks. Over the course of this preliminary study, the extra oil did not significantly alter the volunteers' levels of total serum cholesterol or low-density lipoprotein (LDL) cholesterol (the "bad" cholesterol). However, Nash reports, it did elicit a 14 percent increase in high-density lipoprotein (HDL) cholesterol (the "good" cholesterol) and a 15 percent decrease in triglycerides, an independent risk factor in heart disease.

Grape seed oil's ability to raise HDL "appears unique," he told *SCIENCE NEWS*. Although many dietary constituents—most notably soluble fibers—can lower LDL cholesterol (SN: 5/26/90, p.330), Nash argues that until now, no foods and only a few drugs (including niacin, gemfibrozil and alcohol) have demonstrated an ability to raise HDL cholesterol. And that's important, he says, because data from the Helsinki Heart Study indicate that for every 1 percent increase in serum HDL, the risk of adverse cardiac events, such as heart attacks, drops by 3 percent (SN: 9/9/89, p.171).

Nash speculates that grape seed oil may have an additive effect with soluble fiber, since these two foods appear to affect serum lipid levels by different mechanisms.

## The positive side of palm oil

Tropical oils, including palm oil, have taken a lot of heat in recent years. Because of their high saturated fat content, these inexpensive oils—used in a wide range of commercially prepared foods, including crackers and cookies—have been suspected of contributing to the high serum cholesterol levels plaguing many Americans. But palm oil also contains some potent cholesterol-lowering agents, according to a small, double-blind pilot study led by Basil A. Bradlow at the University of Illinois in Chicago.

Every day for four weeks, 15 men and women with high serum cholesterol consumed four capsules containing a total of 200-milligrams of either corn oil or a mix of palm-oil-derived tocotrienols—oily chemicals related to vitamin E (SN: 5/26/90, p.330). Then, for another four weeks, each person switched to the opposite type of capsules.

The corn oil supplement, used as a placebo, did not alter the volunteers' cholesterol levels, which initially ranged from 240 to 310 milligrams per deciliter of blood. However, those who spent the first four weeks on the tocotrienol supplements showed dramatic improvements in several important blood factors, including an average 20 percent decline in total serum cholesterol, a 28 percent decline in low-density lipoprotein (LDL) cholesterol and a 16 percent decline in platelet factor 4, a risk factor in atherosclerosis.

Moreover, these beneficial blood changes did not bounce back to baseline levels when the volunteers switched to corn oil, the researchers report. "Their serum cholesterol levels continued to be lower [than at the start of the study], even after

six weeks," Bradlow reports. The researchers suspect the residual benefit resulted from a continuing elevation in blood levels of tocotrienol.

In a separate four-week study of seven people with very high serum cholesterol levels, 200-mg supplements of gamma-tocotrienol lowered total cholesterol an average of 31 percent—from about 300 milligrams per deciliter to 210. This suggests that gamma-tocotrienol may be the most potent cholesterol inhibitor in the capsules of palm-oil-derived tocotrienols, Bradlow says.

## Taking HDL in stride

A brisk, 45-minute walk "may be sufficient to evoke significant, temporary elevations in serum high-density lipoprotein [HDL] cholesterol in women," report researchers at Loma Linda University in Crestline, Calif. HDL is believed to help remove cholesterol from the bloodstream, where it might otherwise contribute to artery-clogging plaque.

Several studies have indicated that exercise—especially prolonged, intense exercise—can raise HDL cholesterol in both men and women. However, this is the first indication that moderate walking can achieve similar changes, says study leader Robert D. Lee.

His team monitored the effects of exercise on serum lipid levels in 12 healthy women in their mid- to late 30s whose weights averaged about 160 pounds. Exercise sessions began at 7:15 a.m. on each of two successive Sundays. On the first day, half the women exercised on treadmills for 45 minutes at a pace of about 4.6 miles per hour while the others rested quietly. The next week, the two groups switched regimes. The researchers took blood samples five times between 7 a.m. and 1 p.m. on each test day, then again at 7 the next morning.

The exercise fostered an apparent 6.2 percent rise in HDL cholesterol, lasting about 90 minutes. Lee says the increase primarily reflects a highly significant 11.6 percent increase in one subfraction known as HDL<sub>3</sub>.

## Enthusiasm for niacin waned, now waxes

Niacin, first prescribed as a treatment for high blood cholesterol in 1955, is the granddaddy of today's commonly used cholesterol-lowering agents. However, side effects arising from therapeutically potent doses of this water-soluble vitamin have greatly restricted its use, notes Joseph M. Keenan, a family physician at the University of Minnesota in Minneapolis. Keenan cites studies showing that up to 40 percent of patients prescribed standard niacin quit taking it because of the side effects—primarily upset stomach and a whole-body flushing of the skin—as did 16 to 40 percent of patients treated with alternative, timed-release niacin formulations.

Keenan and his co-workers have now tested yet another timed-release version, with the niacin embedded in a wax matrix. In their 16-week, double-blind, placebo-controlled study of 201 men and women with elevated LDL levels, the new formulation achieved niacin's typical cholesterol reductions—with almost no ill effects.

Side effects occur when large quantities of niacin enter the bloodstream, but the formulation tested by Keenan's group features a nondigestible wax that slowly parcels out the drug as it passes through the gut.

The findings suggest that 1,500 milligrams of niacin daily will achieve the same cholesterol-lowering effects seen with some controlled-release formulations containing 3,000 mg. Most impressive, however, was the patients' low dropout rate of only 3.4 percent, Keenan says. This "really is a breakthrough formulation," he told *SCIENCE NEWS*, adding that it may help revive interest in an effective and "dirt cheap" drug.