Beef and Chocolate: A Partial Reprieve

Saturated fats have received a lot of bad press. Now it looks as if one of them, which is plentiful in beef and cocoa butter, does not raise cholesterol at all

Chocolate: *Not quite as bad for you as previously believed.*

In *Sleeper*, Woody Allen's character, who owned the Happy Carrot Health Food Store in Greenwich Village in 1973, awakens from deep freeze 200 years later to find that steak, deep fat, cream pie, and hot fudge have become the new health foods.

Allen's vision might not be that far off, according to new research by Scott M. Grundy and Andrea Bonanome of the Center for Human Nutrition at the University of Texas Southwestern Medical Center at Dallas. Their study, published 12 May in the *New England Journal of Medicine*, suggests that beef and chocolate may be good for you—or at least not as bad as previously believed.

Rich in saturated fatty acids, chocolate and beef, but especially beef, have been shunned by the cholesterol-conscious for years. Indeed, the American Heart Association recommends cutting back consumption of beef and other animal fats to keep saturated fatty acids below 10% of total caloric intake. Saturated fatty acids are a major culprit in elevated plasma cholesterol levels.

The University of Texas work, however, suggests that at least one saturated fatty acid has been falsely accused. Contrary to the press it has received, stearic acid, a major component of beef fat and cocoa butter, does not raise blood cholesterol levels, report Grundy and Bonanome.

This finding is not license to sit down daily to a slab of ribs, cautions Grundy. Rather, the message is that "lean beef is OK. It has an acceptable role in our diet." And by substituting stearic acid for other fatty acids in food processing, Grundy says, it should be possible to create a tastier, more varied diet that does not raise cholesterol.

This is the second study in which Grundy has brought welcome news to the diet-conscious. The first, published about 2 years ago, exonerated monosaturates, such as olive oil, of a role in cholesterol elevation and presumably heart disease. The impetus for these studies, Grundy says, was his belief that it must be possible to design a diet that is palatable—and even enjoyable—and yet reasonably safe.

"Diets were becoming more and more restrictive—so restrictive that people weren't trying any more. I decided to explore components of the diet that had been largely ignored to see if they might be OK."

Stearic acid was a logical choice, as studies by Edward Ahrens, Ancel Keys, and Mark Hegsted in the 1950s and 1960s had suggested that it did not raise blood cholesterol as much as other saturated fatty acids. Those findings, however, were largely ignored in the various formulations of dietary guidelines, which lumped all saturated fatty acids together in the undesirable category.

To confirm those earlier studies, Bonanome and Grundy placed 11 male subjects on three different liquid diets for 3 weeks each, in random order. All three diets were low in cholesterol, providing about 100 milligrams a day, and supplied about 40% of their calories in fat. One formula was high in palmitic acid, a saturated fatty acid found in palm oil and animal fats and a known offender in terms of cholesterol effects. Another was high in oleic acid, a monosaturated fatty acid found in olive oil, rapeseed, and some forms of sunflower seed and safflower oil. The third was high in stearic acid.

When compared with the cholesterol-boosting diet rich in palmitic acid, blood cholesterol levels were 14% lower on the stearic acid diet and 10% lower on the oleic acid diet. Levels of low-density lipoprotein, the "bad" cholesterol, were 21% lower on the stearic acid diet and 15% lower on the oleic acid diet. Thus, says Grundy, stearic acid is at least as effective at lowering cholesterol as is oleic acid—when either replaces palmitic acid in the diet.

That last phrase is crucial, says Mark Hegsted, professor emeritus at Harvard. He cautions that the way the data are reported could lead to the inaccurate impression that stearic acid actually lowers cholesterol.

"Stearic acid does not raise cholesterol, but I don't believe it lowers cholesterol. It lowers cholesterol compared to palmitic acid. But it doesn't mean the more stearic acid you eat, the lower your cholesterol will go."

There are several other caveats, which Grundy and Bonanome point out. There is no evidence that women would respond the same way. Nor is the mechanism understood, though the rapid conversion of stearic acid to oleic acid may explain it.

Perhaps the most important caveat is that the study was conducted using liquid formulas that differ radically from ordinary diets. In foods, saturated fatty acids appear in combination; in beef, for example, stearic acid accounts for 40% of the fatty acids, but palmitic acid, the cholesterol-boosting fatty acid, is also present. The same is true in cocoa butter. Write Grundy and Bonanome: "We urge that the results not be extended unreservedly to common fats rich in stearic acid, such as beef fat and cocoa butter, without further evidence."

Caveats aside, says Grundy, "it is a plus for beef. It turns out beef raises cholesterol less than we thought."

"It does get the beef industry off the hook," agrees Hegsted, "at least a little."

This study, however, "should not change our dietary message to the American public," write Irwin Rosenberg and Ernst Schaefer of Tufts Human Nutrition Research Center in an accompanying editorial. The recommendation to reduce total fat and calories in our diets "continues to be prudent advice."

Adhering to those guidelines may be a bit easier now, says Grundy. By substituting stearic acid for oleic acid in margarine, for example, it should be possible to improve its texture and taste without raising cholesterol. "You need saturated fat if a pie crust is going to be any good."

Perhaps the bottom line, as the editorialists note, is that studies such as this one should "remind us of the modesty with which these [dietary] recommendations need to be made." ■ LESLIE ROBERTS