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(Abstract #1525)

SHORTAGE OF 'GOOD' CHOLESTEROL MAY RAISE RISK FOR HEART DISEASE

WASHINGTON, Nov.16 -- It has become an article of faith that too much cholesterol is bad for the heart. A new study suggests that too little high-density lipoprotein-cholesterol, or HDL, the so-called "good" cholesterol, can be equally bad.

Scientists reported finding a surprisingly large number of patients with disease in their coronary arteries whose total cholesterol levels were below what are considered "safe" levels. This prompts the scientists to question whether current guidelines, issued only last year, may need revision.

The report was presented here today at the 61st Scientific Sessions of the American Heart Association.

The researchers at the Johns Hopkins Medical Institutions in Baltimore evaluated the blood lipid (fat) content of 1,000 patients who had undergone diagnostic coronary angiography, an X-ray look into their coronary arteries in search of obstacles that might interfere with blood flow to the heart muscle.

Of the 1,000 patients, there were 185 men and 47 women who had coronary artery disease, even though their total cholesterol levels were less than 200, well within the so-called desirable range. Patients with a recent heart attack were excluded from the study because the heart attack would alter lipid levels. This left 138 men and 37 women in the investigation.

The study revealed that 68 percent of the men and 32 percent of the women had HDL-cholesterol levels of less than 35 mg/dl. Earlier studies have shown that relative risk of coronary disease increases as HDL levels fall. According to the Framingham (Mass.) Heart Study, an HDL level of 35 translates into a 50 percent higher risk, compared to an HDL of 45.

Michael Miller, M.D., says he and his colleagues "were curious to find out if, in fact, there were lipid abnormalities that were prevalent in a patient group that otherwise would not be detected by the present guidelines." The

guidelines, announced in October 1987 by the National Cholesterol Education Program, define total cholesterol of less than 200 milligrams per deciliter (mg/dl) of blood as a desirable level for American adults. The NCEP is managed by the National Heart, Lung and Blood Institute on behalf of more than 20 member organizations, including the AHA.

Medical statistics show, and the Johns Hopkins study confirms, that a low HDL level is a strong predictor of coronary heart disease -- even better, some scientists believe, than the presence of high levels of low-density lipoprotein (LDL). Researchers say LDL contributes to coronary artery disease by depositing cholesterol on vessel walls. Scientists believe that HDL helps lower the risk of heart disease by transporting cholesterol to the liver to be processed for excretion.

According to Miller, one way to increase HDL levels is to lose weight, particularly for obese patients. If one loses weight, not only will his HDL levels go up, but, in addition, his triglyceride levels may go down. (Some researchers think that high triglyceride levels in the blood may be a risk factor for heart disease.) Weight loss also reduces the risk of diabetes, which is itself a contributing factor to heart disease.

Other ways to raise HDL levels are exercising regularly and quitting smoking.

Dietary changes commonly reduce blood cholesterol levels. Polyunsaturated fats, such as those in corn or safflower oil, decrease total cholesterol levels, but they also lower HDL levels. However, Miller says recent studies have shown that monounsaturated fats, such as olive oil, will reduce the total cholesterol without adversely affecting the HDL level. This means they lower only the LDL-cholesterol.

Miller believes that in addition to losing weight, exercising and quitting smoking, "It may be that drug therapy will turn out to play the most important role." Some drugs have elevated HDL levels up to 33 percent. But Miller cautions that people on cholesterol-lowering drugs should eat foods low in animal fats, the main source of dietary cholesterol, otherwise the effectiveness of these drugs may be limited.

The blood fat data on the 1,000 patients was provided by Thomas A. Pearson, M.D., Ph.D., who recently left Johns Hopkins to become director of

the Research Institute at Mary Imogene Bassett Hospital in Cooperstown, N.Y. The data were analyzed using standardized procedures of the Lipid Research Clinics' program at the Johns Hopkins Lipid Research Center.

Pearson says that the National Cholesterol Education Program's adult treatment guidelines represent a major step toward the evaluation of cholesterol in patients with or without coronary artery disease. But he thinks that several developments raise the question, "How aggressively should doctors approach lipids in patients with already established coronary artery disease, such as those diagnosed by coronary arteriography?"

"First," Pearson says, "we have shown that with cholesterol-lowering we can prevent the progression of coronary lesions. The second development is some evidence that raising HDL-cholesterol is effective in preventing coronary disease."

The Johns Hopkins study has demonstrated that some individuals with coronary disease and a "desirable" total cholesterol level actually had a very undesirable HDL-cholesterol level. That, coupled with the fact that low HDL levels may be a risk factor for coronary heart disease, led Pearson and Miller to suggest revision of the National Cholesterol Education Program guidelines.

Pearson's recommendation is that doctors should measure and analyze the fasting blood levels of total cholesterol, HDL cholesterol and triglycerides of everyone with coronary disease, regardless of their total cholesterol level. "This would constitute an evaluation that would then lead to the appropriate steps to prevent the progression of coronary lesions and perhaps even its reversal," Pearson says.

Co-authors of the study were Lucy Mead, Sc.M., and Peter O. Kwiterovich, M.D., at Johns Hopkins Medical Institutions.

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USA TODAY

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THURSDAY, NOVEMBER 17, 1988

Low level of 'good' cholesterol is bad

By Tim Friend
USA TODAY

Too little "good" cholesterol is just as dangerous as too much bad cholesterol — and may not show up on screening tests, a new study shows.

"We didn't know until now that low levels were bad in people with normal total cholesterol," says Dr. Michael Miller, of the Johns Hopkins University, Baltimore.

The findings — presented Wednesday at the American Heart Association's 61st Scientific Sessions — mean doctors should check HDL ("good" cholesterol) levels in all patients at risk for heart disease.

Miller checked 1,000 patients hospitalized for chest pain. Results:

- ▶ A third of those diagnosed with heart disease had normal total cholesterol levels.

- ▶ Of those patients, 2 out of 3 men had low HDL — less than 35 — and 4 out of 5 women had levels less than 45.

Normal HDL levels for men: 45-50; for women: 50-60. HDL helps the body rid itself of excess cholesterol.

Low HDL is usually hereditary, but you can raise it by losing weight, not smoking and including olive oil in your diet.

It's too soon to recommend HDL testing for everyone, but Miller says you may be at risk for heart disease with low levels of HDL and no other risk factors.

Research Links Heart Disease to Low Levels of 'Good' Cholesterol

By JANNY SCOTT, *Times Medical Writer*

WASHINGTON—A new study that calls into question year-old federal guidelines on heart disease risk has found that people with relatively low total cholesterol levels may nevertheless be developing coronary artery disease.

The research suggests that some people's arteries become clogged more from a shortage of so-called "good" cholesterol than from an excess of "bad" cholesterol.

The study, released Wednesday by researchers at Johns Hopkins University, examined men and women with total cholesterol levels well below those recommended in federal guidelines. Of the 1,000 men and women in the study, 232 had coronary artery disease.

Two-thirds of the men with coronary artery disease and one-third of the women had unusually low levels of HDL cholesterol, the so-called "good" cholesterol, the researchers found. Recent studies suggest that a person's risk of coronary disease rises as their HDL cholesterol levels fall.

The researchers, speaking at the American Heart Assn.'s annual scientific sessions, challenged the guidelines issued last year by the National Cholesterol Education Program. Those guidelines set the desirable level of total cholesterol for Americans at below 200 milligrams per deciliter of

blood. People who fall within that guideline are not automatically tested for HDL cholesterol.

The researchers, headed by Dr. Michael Miller of the Johns Hopkins Department of atherosclerosis, recommended that the guidelines be reconsidered. They suggested that all people with coronary artery disease, no matter how low their total cholesterol, be tested specifically for HDL cholesterol and other fats.

"The bottom line is that for the past 15 years, the focus has been on high total cholesterol," Miller said in an interview. ". . . But if you have too little of the good guys, the HDL, you're also at risk."

Artery Disease

Because his study focused on people with coronary artery disease, Miller said he could not comment on healthy people with low total cholesterol. He said he was not currently recommending that all healthy people automatically be tested for HDL too.

Elevated levels of cholesterol, a fat-like substance in the blood, have been linked to increased risk of heart disease. Along with fats and other substances, cholesterol can build up on artery walls, dangerously reducing blood flow to the heart.

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CIRCULATION:
1,104,651 DAILY / 1,502,120 SUNDAY

Los Angeles Times

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HEART: Study

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More than half of all middle-aged Americans have total cholesterol levels above 200, a level at which heart disease risk is believed to rise sharply. Atherosclerosis, the narrowing of arteries, is a leading contributor to about 700,000 deaths a year by heart attack and stroke in the United States.

Scientists have known for some time that cholesterol falls broadly into several types: They include HDL, the so-called good type, and LDL, the bad. Cholesterol carried by low-density lipoproteins (LDL) is believed more likely to be deposited on artery walls. High-density lipoproteins (HDL) appear to transport cholesterol away from cells to the liver for excretion.

Commenting on Miller's study Wednesday, Dr. Bernadine Healy, president of the American Heart Assn., warned against over-emphasizing HDL cholesterol. She said it is difficult to significantly raise a person's HDL levels, while LDL levels can be more easily reduced.

Dietary changes or drug therapy can lower LDL levels dramatically—by as much as 40%, Healy said. Scientific studies have shown that lowering one's LDL cholesterol levels can halt and even reverse buildup of plaque in the arteries, she said.

By contrast, Healy said she knows of no scientific proof that raising HDL levels will have the same effect.

Miller, however, countered that some recent studies suggest that exercise and even some drugs can raise HDL levels.