

Inflammation worse for health than cholesterol

Doctors scramble to rewrite testing guidelines for major risk factor in attacks

By Daniel O'Hanry
Associated Press

BOSTON — Hard to believe, perhaps, but the top health concern of millions of Americans — cholesterol — is about to be trumped by what doctors say is an even bigger trigger of heart attacks.

The condition is low-grade inflammation, which may originate in a variety of unlikely places throughout the body. New federal recommendations are being written that will urge doctors to test millions of middle-aged Americans for it.

The discovery of its surprising ill effects is causing a top-to-bottom rethinking of the origins and prevention of heart trouble. Doctors call it a revolutionary departure from viewing the world's top killer as largely a plumbing problem blamed on cholesterol-clogged arteries, the standard theory through the modern era of cardiology.

"The implications of this are enormous," says Dr. Paul Ridker of Boston's Brigham and Women's Hospital. "It means we have an entire other way of treating, targeting and preventing heart disease that was essentially missed because of our focus solely on cholesterol."

In the past year or two, experts say, the evidence has become overwhelming that inflammation hidden deep in the body is a common trigger of heart attacks, even when clogging in the arteries is minimal. Now the main question is: How aggressively should otherwise healthy people be tested to find and treat it?

The recommendations are still being drawn up, but they will offer the first formal blueprint to answer this, probably sometime in the fall. Doctors writing them say they will almost certainly recommend broad testing.

Inflammation can be measured with a generic \$10 test that looks for high levels of a chemical called C-reactive protein, one of many that increase during inflammation. Experts expect it to quickly become a standard part of physical exams. As a result, many people ordinarily considered at low risk will probably be put on statin drugs, which lower inflammation as well as cholesterol.

No one disputes the impact of cholesterol. Yet half of all heart attack victims have levels that are normal or even low. Clearly, something big was missing from the equation, and that appears to be inflammation.

Ridker estimates that between 25 million and 35 million healthy middle-aged Americans have normal cholesterol but above-average inflammation, putting them at unusual risk of heart attacks and strokes.

A series of landmark studies by his team of researchers, beginning in 1997, suggests inflammation is more important than cholesterol at triggering heart attacks. They found those with high levels of C-reactive protein have twice the risk of people with elevated cholesterol.

High amounts of the protein also predict increased risk of heart attacks and strokes years before they occur, even when cholesterol levels are low. Having both inflammation and high cholesterol is especially ominous, resulting in a ninefold increase in risk.

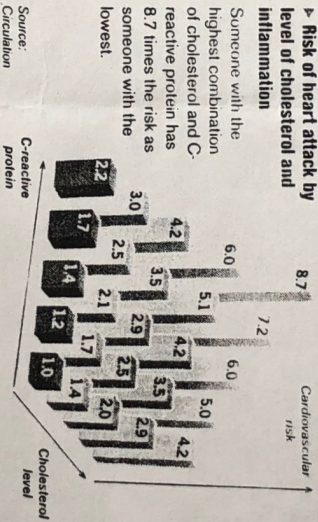
Everyone who reaches middle age has some degree of fatty buildup, called plaque, in the heart arteries. The new evidence suggests it becomes threatening if weakened by inflammation, which makes it squishy and frag-

Inflammation and heart disease

High cholesterol was thought to be the major underlying cause of heart attacks. New research suggests that inflammation, as measured by C-reactive protein, is an even more important trigger.

▶ Risk of heart attack by level of cholesterol and inflammation

Someone with the highest combination of cholesterol and C-reactive protein has 8.7 times the risk as someone with the lowest.



Source: Circulation

High-risk conditions

Inflammation is a newly recognized risk factor for coronary heart disease. Among the other risk factors:

- ▶ Increasing age
- ▶ Being male
- ▶ Having parents with heart disease
- ▶ Smoking
- ▶ Total cholesterol over 239
- ▶ HDL, the good cholesterol, below 35
- ▶ High blood pressure
- ▶ Lack of physical activity
- ▶ Being overweight
- ▶ Diabetes

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such as chronic gum disease.

Doctors hope to have the recommendations ready for publication in the journal *Circulation* in November, followed by a campaign to teach doctors and ordinary people about it. "Our goal is to have a broad-based consensus and use all available means to disseminate that information widely," says Dr. George Mensah, the CDC's chief of cardiovascular health.