

Inflammation proteins may help predict heart attack

NEW YORK, Oct 19, 2000 (Reuters Health) - Blood proteins that are involved in inflammation could help predict a heart disease patient's risk for having a heart attack or dying due to heart disease, researchers say.

Earlier studies have suggested that certain inflammatory proteins play a key role in atherosclerosis, the accumulation of fatty plaques in arteries that can lead to heart attack. Two new studies show that measuring levels of some of these proteins, in addition to risk factors such as cholesterol, makes predicting cardiac risk more accurate.

Both of the studies appear in the October 19th issue of The New England Journal of Medicine. In the first study, lead author Dr. Bertil Lindahl and colleagues at the University of Uppsala in Sweden report that two proteins, troponin T and C-reactive protein "are strongly related to the long-term risk of death" from a heart attack. Troponin T is released by damaged heart muscle and C-reactive protein increases with inflammation.

They conclude that the level of these two proteins can be used to predict the risk for a heart attack and that "their effects are additive with respect to each other and other clinical risk factors."

In the second study, Dr. Chris I Packard, of the Glasgow Royal Infirmary in Scotland, and colleagues looked at an enzyme known as lipoprotein-associated phospholipase A2. They found that the enzyme--independently of other risk factors--could predict heart attack risk in men who had elevated cholesterol levels.

In the study of 580 men with elevated cholesterol and 1160 healthy men, they found that those with the highest blood level of phospholipase-A2 were nearly twice as likely to have a fatal or nonfatal heart attack, or to need surgery or other treatment, compared with men with the lowest levels. Levels of phospholipase A2 are linked to inflammation.

The study was funded by a grant from Bristol-Myers Squibb and diaDexus, a Santa Clara, California-based company that manufactures a test for phospholipase A2.

Combining the results of these studies with other known risk factors will help improve doctors' ability to predict heart disease risk, researchers say.

"It is now generally recognized that although the use of traditional risk factors (like elevated cholesterol, high blood pressure and obesity) produces reasonably accurate estimates of risk in populations, this approach allows clinicians to predict only about 50 to 60 percent of the variation in the...risk of an event in individual patients," writes Dr. Daniel J. Rader in commentary accompanying the research articles.

"Therefore, the addition of other factors that would increase the predictive ability would also improve the accuracy of decisions regarding the use of proven preventative therapies."

Sources: The New England Journal of Medicine 2000;343:1139-1155,1148-1155.