Coronary artery calcium best predictor of cardiovascular risk, when unsure

By ACSH Staff — August 22, 2012

Primary prevention of cardiovascular disease (CVD) relies on classifying patients based on their global cardiovascular risk the probability of developing CVD within a set period of time, taking into account a number of risk factors at once. A person is found to be either high, intermediate, or low risk based on several risk models, among which the best known is the Framingham Risk Score (FRS). It has become increasingly apparent, however, that the intermediate risk group is actually a composite of individuals of various predicted risk levels.

Thus, in order to better characterize the true CVD risk of individuals lumped into the intermediate risk category, a multi-center study, led by Dr. Joseph Yeboah of the Wake Forest University School of Medicine, compared the predictive power of six risk markers associated with cardiovascular disease (CVD) and coronary heart disease (CHD).

Published in JAMA, the study [1] included over 1,300 diabetes-free patients who were originally classified as intermediate risk. Information on all six risk markers was available for all of the participants, who were then followed for over seven years. The results showed that, even after accounting for specific confounding variables, the risk marker with the strongest predictive association for CVD was a patient’s level of coronary artery calcium (CAC). (A CT scan can determine the amount of calcium buildup in the plaque of the walls of the arteries.)

ACSH’s Dr. Gilbert Ross finds the study particularly important and the results very promising. Knowing that CAC is actually superior to better-known parameters as a tool to more accurately classify intermediate-risk individuals should lead to better risk assessment, and therefore better monitoring and treatment of those at risk for CVD.

ACSH’s Dr. Josh Bloom points out that, while these results are interesting, it’s not quite so cut and dried: Factors such as accessibility of this fairly sophisticated test, cost, and reliability of interpretation must be factored in, he says. And the current concern with over-exposure to ionizing radiation, while possibly exaggerated, should at least be taken into account as well.