Significant coronary disease (>70% diameter stenosis) in the remote area was present in only 2 of 17 patients. Excluding these data did not change the results of our study.

We agree that we have not yet proven that repeated stunning actually occurred in these patients. We have shown, however, that there is a mismatch between flow (near normal) and function (strongly abnormal) in hibernating segments. Since there is no perfusion-contraction matching, we think that repeated stunning is a more plausible cause of dysfunction in this particular model.

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References

Ultrafast Computed Tomography in Coronary Screening

We strongly disagree with the “Science Advisory” on ultrafast computed tomography published in the June 1993 issue of Circulation. The primary prevention of coronary artery disease is among the highest priorities of the American Heart Association. Although aggressive cholesterol lowering and aspirin therapy have been shown to slow the progression of coronary atherosclerosis and prevent future coronary events in those with established coronary disease, there remains great controversy concerning which groups without clinical coronary disease should receive these therapies.1 Because coronary atherosclerosis is multifactorial, coronary risk factors are of limited predictive value in the majority of those destined for a coronary event.2

By noninvasively imaging the coronary arteries and quantifying coronary atherosclerosis with a simple, safe, and inexpensive test, a high-risk population may be segregated from those with midrange coronary risk factors.

Numerous pathology studies have shown the extent of coronary calcification to correlate with the extent of coronary atherosclerosis and with coronary events.3 X-ray studies of aortic calcification4 and fluoroscopy studies5 of coronary calcification have shown significant predictive value for future coronary events. Ultrafast computed tomography (CT) has been shown to be superior to fluoroscopy at detecting and quantifying coronary calcification. The extent of coronary calcification as quantified by ultrafast CT has been shown to be much greater in those with versus those without clinical coronary disease.6 Correlations with the pathological and angiographic extent of disease have been good.7 While ultrafast CT may not precisely correlate with the degree of atherosclerosis, neither does coronary angiography,8 yet the latter still provides good prognostic information. “Precise” correlation is not necessary for risk assessment in primary prevention.

From the best available evidence, the presence of substantial calcification in a subject with midrange conventional risk factors puts that person in a higher risk category and justifies more aggressive risk factor intervention.

While there may be controversy concerning the present role of ultrafast CT in coronary screening, we believe that a full range of viewpoints including those of investigators involved in the application should be heard before issuing a “Science Advisory.”

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References

Reply

Dr. Agatston and Janowitz disagree with the American Heart Association Medical/Scientific Statement on ultrafast computed tomography because they believe that this modality can identify a “high-risk” population. However, careful review of their letter indicates that they do not present any data to dispute the AHA statement that indicated that “prognostic significance of the presence or absence of calcification detected by ultrafast computed tomography is unknown.” The articles by Witteman and Margolis that are cited by Drs. Agatston and Janowitz did not assess the prognostic value of coronary calcification assessed by ultrafast computed tomography. Margolis used cardiac fluoroscopy to assess the prognostic significance of coronary calcification by that technique in a symptomatic population with a very high prevalence of angiographically significant coronary artery disease. Their data are certainly not applicable to the issue of coronary prevention. Witteman assessed the prognostic significance of aortic calcification on chest x-ray in the Framingham Study. Aortic calcification by chest x-ray did not appear to identify a “high-risk”...
Ultrafast computed tomography in coronary screening.
A S Agatston and W R Janowitz

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