Recommendations for Preparticipation Screening and the Assessment of Cardiovascular Disease in Masters Athletes

To the Editor:

The authors of the American Heart Association (AHA) Science Advisory “Recommendations for Preparticipation Screening and the Assessment of Cardiovascular Disease in Masters Athletes” are to be commended for their intent but criticized for their omission of electron beam computed tomography (EBCT) evaluation of calcified plaque burden. Lack of formal endorsement of this technology for widespread screening notwithstanding, the “American College of Cardiology (ACC)/AHA Expert Consensus Document on EBCT for the Diagnosis and Prognosis of Coronary Artery Disease” (CAD) acknowledges the following:

1. A negative EBCT test makes the presence of atherosclerotic plaque, including unstable plaque, very unlikely.
2. A negative test is highly unlikely in the presence of significant luminal obstructive disease.
3. Negative tests occur in the majority of patients who have angiographically normal coronary arteries.
4. A negative test may be consistent with a low risk of a cardiovascular event in the next 2 to 5 years.
5. A positive test confirms the presence of a coronary atherosclerotic plaque.
6. The greater the amount of calcium, the greater the likelihood of occlusive CAD.
7. The total amount of calcium correlates best with the total amount of atherosclerotic plaque.
8. A high calcium score may be consistent with moderate to high risk of a cardiovascular event within the next 2 to 5 years.

Subsequent to this statement, there have been 3 major studies confirming the prognostic power of EBCT in the asymptomatic population, with a power multiplicative of conventional risk factors. In addition, there are clear data establishing the likelihood of abnormal nuclear stress tests in any given calcium range, thereby establishing an algorithm for further testing.

It would seem, therefore, that the ideal tool for cardiac risk stratification in Masters athletes is readily available, embodies characteristics that have been endorsed by the ACC and AHA, and should be the test of choice in this population. I encourage the authors to revisit the issue of risk evaluation in this special group, using these data of which they may not have been aware.

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Response

Dr Hecht is correct that in our AHA Science Advisory, “Recommendations for Preparticipation Screening and the Assessment of Cardiovascular Disease in Masters Athletes,” we omitted electron beam computed tomography (EBCT) from our guidelines regarding the noninvasive testing of such individuals for coronary artery disease.

This decision was made in light of the unresolved role for EBCT as a screening test in large populations of asymptomatic individuals and particularly (as pointed out by Dr Hecht) the failure of this technology to achieve a formal consensus endorsement for widespread screening from both the American Heart Association and American College of Cardiology. Certainly, the assertion that EBCT constitutes the “test of choice” for such a population strikes us, at present, as a premature claim and not substantiated by current recommendations.

Another relevant issue is the limited accessibility of EBCT to an athletic population, both with respect to the cost burden and the relatively small numbers of centers operating this expensive instrumentation. This is particularly true when compared with exercise testing, which we recommended as a primary screening test. Indeed, our Science Advisory was directed toward a worldwide athletic population, including countries in which such technology is either absent or very restricted. Furthermore, in this physically active population, a great deal of physiological information can be obtained from an exercise test that could have direct relevance regarding the risks associated with exertion and in designing appropriate and prudent exercise programs.

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