

How to Detect Subtle Coronary Artery Disease in Supposed Healthy Master Athletes

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SHORT COMMUNICATION

Recently the Journal of Preventive Cardiology has published the Commentary “Undetected coronary artery disease in apparently healthy athletes” by Fabian Sanchis-Gomar and coworkers¹. In this paper the authors describe some cases of undetected Coronary Artery Disease (CAD) in apparently healthy athletes, including Davide Astori, an Italian national football player who actually died due to Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC) as the autopsy revealed and not due to CAD. The same underlying arrhythmogenic cardiomyopathy might have been the cause of SCD in some of the other younger athletes mentioned in such article. These authors summarize recent episodes of sudden death or cardiovascular events occurred to professional athletes. However, most sports cardiologists might not agree with some of the considerations regarding limitations of or insufficient sports pre-participation screening, as they appear inappropriate and debatable. In particular two sentences wrote in the above mentioned article claim the inadequacy of such screening to identify the presence of CAD in athletes at high risk of future cardiovascular events. One being: “Unfortunately, pre-participation screening/examination has severe limitations in terms of identifying subclinical coronary atherosclerosis”. Actually, relevant literature^{2,3,4}, might not have been examined. In fact, by sports pre-participation screening it is possible to diagnose silent and dangerous myocardial ischemia in athletes due to mono or bi-vessel or three-vessel coronary artery disease, and also to manage it properly. Therefore, thanks to sports pre-participation screening and an optimal Ex-ECG stress test protocol an early diagnosis can be made, preventing these athletes from suffering from future cardiovascular events such as myocardial infarction and sudden death. Most of the references explain this clearly and highlight the opportunity to

detect CAD in such athletes by means of an optimal protocol. Another sentence of the mentioned article is: “Classic cardiac screening protocols are insufficient to prevent acute cardiovascular events in athletes older than 35 years. The case of Iker Casillas has made this clear”. This seems questionable. Apart from the fact that nobody really knows what type of screening was performed on Iker Casillas and what the clinical results of the test were, this is a very singular case and to generalize could be wrong also due to the fact that athletes of this level are assumed, a priori, to be healthy individuals, almost immune to cardiac pathologies. Hence screening tests may not be able to evoke the classical signs of inducible myocardial ischemia or doctors are not able to make a careful analysis of ST segment depression on Ex-ECG stress test. Indeed, such anomalies could often be minimized and considered as false positive since the athlete presents no symptom. As a matter of fact, is it possible that some sports cardiologists do not have enough experience with maximal stress testing protocols. This is the reason why anomalies of ventricular repolarization by ST changes should never be underestimated in athletes. So it could be argued that the problem does not lie in the screening itself but it could be that the test is incomplete and/or not well interpreted. Recognizing anomalies resulting from Ex-ECG stress tests is the key of sports pre-participation screening (PPS) in master athletes. Screening athletes is becoming an art that requires much experience with carrying out protocols as well as ECG with the interpretation of the protocols. Screening protocols should not be considered inadequate because there are no real limitations or difficulties in detecting CAD in apparently healthy athletes by exercise stress testing. Therefore, the limitations are confined elsewhere. The Position paper from the EHRA and the EACPR, endorsed by APHRS, HRS, and SOLAECE” by Mont L. et al⁵, reports that an exercise stress test might be

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considered in senior athletes at high cardiovascular risk, although conflicting data exists on the efficacy of such approach. In my view, the accuracy and efficacy of such exercise stress test could be improved by expert physicians in athletes exercise screening, which must be always personalized to detect silent inducible myocardial ischemia to prevent sudden cardiac death or myocardial infarction.

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