

Role of clinical features in prediction of coronary artery disease documented by multi-slice CT angiography in aviation

To the Editor,

The manuscript published in this journal Erdal et al. (1) deals with clinical parameters that may be associated with significant coronary artery disease in aircrew. Coronary artery disease was diagnosed by Multi-slice CT angiography (MSCT). The authors suggest that ST segment depression of less than 1 mm may be an indication for MSCT in aviators, particularly if associated with a family history of premature cardiovascular disease. It is certainly imperative to identify those with coronary artery disease prior to the occurrence of a potentially lethal episode (2), but this method by which this screening should be done is unclear. In addition, there is continuing debate regarding the benefit conferred by cardiovascular screening in athletes (3), a population that certainly resembles the population of aviators, both being in good physical condition.

MSCT is certainly a reliable method for the exclusion of coronary artery disease with a negative predictive value approaching 100%. Yet, because of the exposure to ionizing radiation it certainly cannot be used for screening of the general population and identification of at-risk population most suitable for its use is mandatory. Treadmill testing is certainly useful in the selection of candidates for more extensive evaluation, but its specificity is extremely low. Over reliance on the treadmill testing for continued investigation will result in excessive use of MSCT and this may lead to unwarranted invasive procedures and unnecessary disqualification of aviators. As the training of aviators is long and expensive, balance must be made

between the wish to prevent in-flight incapacitation and the wish to preserve those who are able to continue flight safely. The main limitation of this work is the fact that the study population was not compared with a group of healthy controls. As this comparison was not performed it is difficult to clearly define the true significance of the ST segment changes in the prediction of coronary artery disease. Therefore, I believe that decisions regarding aero medical disposition in cardiovascular medicine should be based on clinical judgment and judicious use of ancillary testing. This study, in my opinion, should not lead to policy change in terms of cardiovascular screening of aviators, particularly because the study group was not compared with a control group.

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References

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