LETTER TO THE EDITOR

T-Wave Alternans and Ventricular Arrhythmias in Athletes: Usefulness of Follow-up Updates

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To the Editor:

We read with interest the letter by Dr. Madias¹ about our article on the usefulness of T-wave alternans (TWA) in risk stratification of athletes with ventricular arrhythmias.² In that letter Dr. Madias states that an update of follow-up would provide more information about the true role of TWA and electrophysiologic study (EPS) for sudden death risk stratification in this particular group of subjects.

We definitely agree with this opinion, and in particular we think that very interesting information would be provided by both an extension of follow-up duration and a reevaluation of TWA. The majority of studies investigating the prognostic value of TWA have a quite short follow-up, which is longer than three years only in the Marburg cardiomyopathy study.³ In this study, at multivariate analysis only the ejection fraction was a significant predictor of mortality. Although several limitations of the study may have influenced this result, we believe that a too long follow-up may exceed the predictive capacity of any diagnostic test in evolutionary conditions, such as not only dilative cardiomyopathy, but also sport-induced ventricular remodeling or other heart diseases triggered by intensive physical activity. Furthermore, in a recent study⁴ it has been demonstrated that TWA in patients with dilative cardiomyopathy predicts mortality throughout the first two or three years of follow-up. Therefore, in our study group we surely believe a follow-up update to be useful in order to verify if subjects with positive TWA and EPS in the absence of significant morphological cardiac abnormalities have de-

veloped structural heart disease over time, but we think that this follow-up update would not be able to provide additional information on the real usefulness of TWA in the risk stratification of sudden death and ventricular arrhythmias if it were not associated with a reevaluation of TWA test. Moreover, a repetition of TWA may be useful in order to verify if withdrawal of physical activity in subjects with positive TWA is associated with a structural and electrophysiological cardiac reverse remodeling, and if prolonged intensive physical activity in subjects with ventricular arrhythmias and negative TWA can lead to the development of structural cardiac remodeling associated with high-risk electrophysiological profile (represented by positive TWA and EPS) over time.

In conclusion, we are currently performing a complete reevaluation of our group of subjects, and we are going to provide additional data soon.

REFERENCES

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