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Reply

Drs. Bianco and Zeppilli point out that the prevalence of the "early repolarization" pattern among athletes included as controls in our study (1) is lower than the prevalence observed in their own series of athletes (2) (22% vs. 89%). In fact, the prevalence of this electrocardiographic phenomenon among athletes varies in different series from 7% to 100% (3,4). These large discrepancies are likely due to different definitions of "early repolarization."

It is not easy to explain the high prevalence of "early repolarization" among athletes. Increased vagal tone may play a role. However, early repolarization is not abolished by autonomic blockade (5). Also, young males have more early repolarization (6). Therefore, differences in ion-current density at different myocardial layers (6), mediated by myocardial androgen receptors (7), may underlie the changes in action-potential contour that create the early repolarization pattern (6). Yet, the effects of sports on androgen levels are not trivial. Exercising raises testosterone transiently (8). On the other hand, long-term endurance exercise decreases total- and free-testosterone levels (9).

Three controlled studies showed that J-waves are more prevalent among patients with idiopathic ventricular fibrillation (VF) than among sex- and age-matched controls (10–12). The high prevalence of early repolarization reported in the athletes-series (2–4) should not be extrapolated to the idiopathic-VF series because of the different definitions used. Specifically, idiopathic-VF studies emphasize the presence of J-point elevation; the main finding in athletes was ST-segment elevation (2–4).

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doi:10.1016/j.jacc.2009.02.044

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