CASE REPORTS

Electrocardiogram from a Young Trained Athlete

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CASE REPORT

We describe here a case of a 17-year-old competitive soccer player who stopped playing due to his resting ECG (Fig. 1) performed during the pre-participation screening. He was completely asymptomatic; stress test was negative; and the presence of left ventricular hypertrophy or other structural abnormalities were excluded by echocardiography. The family history was negative for sudden cardiac death. He came to our observation for a second opinion. The ECG shows marked repolarization changes, including ST-segment elevation and T-wave inversion in the precordial leads V₁-V₄. Despite the presence of these marked changes this ECG has to be considered normal. Highly trained athletes may present with an abnormal ECG repo-

larization pattern that is usually an expression of cardiac remodeling associated with systematic and intensive exercise conditioning.¹ In the presence of this ECG pattern the exclusion of life-threatening cardiac conditions such as hypertrophic cardiomyopathy, arrhythmogenic right ventricular dysplasia, dilated cardiomyopathy, aortic valve stenosis, and channelopathies (Brugada syndrome, long and short QT syndrome) is mandatory. Rarely, these marked repolarization abnormalities can also be an initial expression of genetic disorders preceding by many years the phenotypic expression.

REFERENCES

1. Pelliccia A, Di Paolo F, Quattrini F, et al. Outcomes in athletes with marked ECG repolarization abnormalities. *N Engl J Med* 2008;358:152-161.

Figure 1. The 12-lead ECG from a 17-year old-soccer player showing a diffuse and marked changes of repolarization.

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