LETTER TO THE EDITOR

QT Dispersion: Is It a Screening Parameter for Athletes Who Have High Cardiovascular Risk?

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Dear Editor,

I read with great interest the recently published study by Lonati et al.¹ in *Annals of Noninvasive Electrocardiology*. They found that QT dispersion in athletes at rest period was lower than that of hypertensive patients. They also concluded that QT dispersion may help to distinguish physiological hypertrophy from pathological hypertrophy.

Sudden cardiac death as a tragic event, and hence detection of cardiac problems among athletes is important.² The differential diagnosis between athlete's heart and pathologic conditions, represents a difficult clinical problem. Athletes with hypertrophic and hypertensive cardiomyopathy are at high risk for exercise-related sudden cardiac death.²⁻⁵ We previously presented that QT dispersion in athletes at peak exercise with no rest period was different from that of patients who had hypertensive hypertrophy.^{6,7} Based on these results, we also speculated that major changes of repolarization abnormalities may develop during dynamic conditions, especially peak exercise. Furthermore, repolarization stages in the athletes' myocardium depend on aerobic capacity.⁸

Did the authors detect any cutoff level of QT dispersion for differentiating physiological hypertrophy from pathological hypertrophy? We previously found that a QT dispersion ≥ 35 ms at peak exercise identified a pathologic response to exercise with 83% sensitivity and 87% specificity.⁶

In conclusion, measurement of the QT dispersion at peak exercise or early recovery period may distinguish physiologic hypertrophy from pathologic hypertrophy in athletes. This parameter could provide a screening method for cardiovascular risk in athletes, but further studies are needed.

REFERENCES

1. Lonati LM, Magnaghi G, Bizzi C, et al. Patterns of QT dispersion in athletic and hypertensive left ventricular hypertrophy. *Ann Noninvasive Electrocardiol* 2004;9:252-256.
2. Maron BJ, Pelliccia A, Spirito P. Cardiac disease in young trained athletes: Insights into methods for distinguishing athlete's heart from structural heart disease, with particular emphasis on hypertrophic cardiomyopathy. *Circulation* 1995;91:1596-1601.
3. Kasikcioglu E, Akhan H. Echocardiographic limits of left ventricular remodeling in athletes. *J Am Coll Cardiol* 2004;44:469-470.
4. Kasikcioglu E. QT dispersion and myocardial bridging. *Int J Cardiol* (in press).
5. Kasikcioglu E. A crucial point: The early diagnosis of increased risk subjects before sudden cardiac death. *Int J Sports Med* 2004;25:641-642.
6. Kasikcioglu E, Oflaz H, Akhan H, et al. Repolarization heterogeneity during strenuous exercise in hypertensive patients and strength-trained athletes. In: Ping LL, Lock CB, Oh V, Siong CT (eds.): 3rd Asian-Pacific Congress of Hypertension. Bologna, Medimond Press, 2004, pp. 63-66.
7. Kasikcioglu E, Akhan H, Oflaz H, et al. QT dispersion during exercise testing in hypertensive patients and endurance-trained athletes. *J Hypertens* 2004;22(Suppl.):S177.
8. Kasikcioglu E, Kayserilioglu A, Yildiz S, et al. QT dispersion in soccer players during exercise testing. *Int J Sports Med* 2004;25:177-181.