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The significance of early repolarization and incomplete right bundle block in athletes

Introduction: Sudden death in athletes is a major concern; the predictors and value of prior investigations remain to be settled. Of the electrocardiographic (ECG) findings in athletes is early repolarization, its incidence and significance is the subject of this work.

Methods: The study included hundred persons engaged in competitive sports for duration not less than six months; with training at least three days per week and at least two hours per day. All were males. Collection of cases started March till December 2015. Full history especially questioning for syncope, tachycardia or chest pain was obtained as well as family history of sudden death or coronary disease; examination for BP, any cardiac murmurs or arrhythmia. ECG was done for all plus echo Doppler in some cases. Early repolarization was accepted present if J point is elevated more than one mm in LII, III, aVF or in chest leads, raised ST>1mm. RV conduction disturbance was considered present if there is Rsr' or bifid R. Minor or minimal changes were not counted.

Results: During the period from 1/1/2015 to 1/10/2016, 100 athletes were screened by ECG, 54 played isotonic sport while 46 were on isometric sport. Types of sports: 46 isometric (static) (body builders). Isotonic (dynamic) 54 (Bicycling 6, Football 15, Tennis 3, Basketball 16, Volleyball 8, Swimming 4, Boxing 2). Echo was done in 15, increase in LV size was found in 5 (Diastolic diameter up to 61mm). Follow up by telephone questionnaire was done for most of the subjects. 10 persons were re-examined after months, no abnormal events were found. 23 had either or both abnormalities. Early repolarization was found in 19 and Rsr' were present in 9 subjects (5 had both). None was diagnosed as Brugada or RV dysplasia. Follow up by telephone was up to two years. Of the 23 subjects 2 could not be reached (no answer) and in 2 the telephone was wrong. No one reported tachyarrhythmia or syncope neither before recruitment in the study (retrospective) or after follow-up (prospective).

Conclusion: Early repolarization and RV conduction disturbance did not prove to be hazardous.

Biography

Samir Rafla is a Professor of Cardiology at Alexandria University, Department of Cardiology. He is the Head of the Cardiology Dept. Alexandria University from 2004 till August 2007. He got a Bronze medal for Bachalorius with honor 1970; Silver medal: Award for scientific encouragement at Alexandria University in 1994. He has won the Award of the Egyptian Medical Syndicate Feb 2008 for scientific distinction.