function. We studied evolution of LV contractility indexes by serial examinations during a multistage ULDE race.

Methods successive echocardiographic assessment was performed on 20 well-trained amateur male runners (42.8±3.5 year-old) participating in a 236 km 5-stage foot race in the Sahara desert. An echocardiographic study was performed the day before the race (T1), following the completion of the second (41 km, T2) and the fifth (42.2 km, T3) stages, then within the second day of recovery (T4). Contractility indexes included biplan ejection fraction (EF), LV global longitudinal (GL) peak-strain (PS) and strain-rate (SR), sub-endocardial layer (ENDO) and sub-epicardial layer (EPI) longitudinal strain. LV preload was evaluated by LV End Diastolic Biplan Volume (LVEDV) and afterload by LV Meridional Wall Stress.

Results no change of EF was observed during the study period. LV GLPS significantly decreased at T2 (from −20.8±2 to −19±2.9%, p<0.05) while GLSR did not change (from −1.19±0.17 to −1.19±0.17).

GLPS returned to initial values at T3 and T4; evolution of ENDO and EPI longitudinal PS strictly followed modifications of GLPS. Afterload did not change.

There was a tendency to a transient drop in preload at T2 (111±20 to 104±16 mL); preload then increased in T3 (115±25 mL, p<0.05 versus T2) and T4 (121±20 mL, p<0.05 versus T1 and T2).

Conclusions transient drop in LV GLPS occurred at early stage of the race but returned to pre-race value when exercise was repeated and remained stable 2 days after this race. Impact seemed to be of same magnitude in different layers of LV myocardium. Whether preload conditions influenced contractility indexes cannot be ruled out.

The author hereby declares no conflict of interest

0239
Short-term impact of a 4-week ambulatory cardiac rehabilitation program on quality of life and anxiety-depression
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Introduction If the positive impact of cardiac rehabilitation on metabolic profile and exercise tolerance is well documented in the literature very few studies evaluated the impact of these rehabilitation programs on some dimensions of quality of life. To date, no study has documented the short-term effects of an ambulatory cardiac rehabilitation program on quality of life.

Purpose The main objective of this study was to determine if a short and ambulatory 4-week cardiac rehabilitation program could yield a positive impact on different quality of life parameters such as anxiety, depression, as well as physical and mental health.

Methods It is a cohort study which was conducted at the Leopold Bellan hospital, cardiovascular rehabilitation unit. Patients consecutively referred to our institution after an acute cardiac event. It lasted 04 weeks and that included 20 educational and exercise sessions. Psychological wellbeing and quality of life evaluation was conducted by a psychologist using SF-12 questionnaire and HAD test.

Results One hundred and eighty four cardiac patients, mean age 60.48±11.6, participated in this study. Analysing the scores obtained on the SF-12 questionnaire revealed an improvement of physical and mental components after ambulatory 4 weeks cardiac rehabilitation program. (p<0.001).

Furthermore, the HAD scale decreased significantly at the end of the cardiac rehabilitation program. (p<0.001).

Conclusion A 4-week ambulatory cardiac rehabilitation program had a positive impact on quality of life and anxiety-depression. The quick efficacy reported by our study could be explained by the multidisciplinary rehabilitation approach (adapted physical activity sessions, personalized dietary follow-up, psychological and therapeutic care).

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0538
Rheumatic valvular detected during the medical examination of non-counter-indications to the practice of the high level sport: result of a systematic evaluation
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Introduction The cardiovascular assessment during the first medical examination of non-counter-indications to the practice of the high level sport has systematically a heart Doppler ultrasound according to the consensus of National Center for Sport’s Medicine and Science (NCSMS).

Objective To study the prevalence of rheumatic valve disease detected during the systematic echocardiographic assessment of Tunisian elite athletes.

Materials and Methods We retrospectively studied the data of all the TTE carried out in the NCSMS from 1998 to 2009 (4254 heart Doppler ultrasound performed). The study population was composed of 2253 sportmen including 586 girls (26.1%) and 1667 boys (73.9%). They are of average age of 20.58±4.2 years. It is composed of national team’s members (31.5%), professional players (9.2%), sporting pupils (50.19%) and arbitrators (9.2%).

Results We report 628 cardiac anomalies with good left ventricular function, consistent with the practice of competitive sports, mainly 173 cases of rheumatic valvular disease (27.5%) representing 94% of all valvular abnormalities observed. Rheumatic mitral leak was found in 122 cases (70.5%) with the combination of a moderate dilatation of the LV in 7 cases only. 40 athletes (32.7%) received only their routine annual echocardiographic controls whose data were similar to initial results, with the exception of three cases with valvular heart disease has evolved on a LV moderately dilated. We detected 34 rheumatic aortic insufficiency (19.6%), grade 1 to 2 (mild to moderate); Mitral and aortic valve disease (rheumatic mitral insufficiency grade I and rheumatic aortic insufficiency grade I) were observed in 17 athletes (9.9%). Six of them have benefited from echocardiographic control that was similar to the initial one.

Conclusion Our study therefore to an echo-cardiographic description of the various rheumatic valve disease that can be observed in the athlete population and is compatible with the sport.

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0559
Research of QT and QTc intervals dispersion in sporting teenagers
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Athlete’s heart is a non-pathological condition commonly in athletes eadatory to routinely exercise, which may be associated with other serious medical conditions and severe cardiovascular events such arrhythmias. Objective: to evaluate the QT/QTc interval dispersion in adolescent athletes regarding on the type of physical effort. Methods: Subjects: 51 sporting teenagers (14-17 years old) organized in 2 lots. First lot: 25 endurance-trained athletes (runners, football-players) and the 2nd lot: 26 strength-trained athletes (wrestlers, boxers). Control lot: 20 teenagers in the same age group, without any sign of cardiac suffering. ECGs were assessed on all the patients, athletes and non-athletes and used to calculate QT interval in three successive cardiac ECG cycles, the QT interval dispersion (QTD) (the difference between maximum and minimum value of QT interval) and the QTc interval dispersion (QTD/QTc) (Bazett’s formula). Results: the average values of QTD and QTcD in the 1st and 2nd group were superior than the values in the control group but the difference is not statistic significant. I lot=QTD: 43.5±21.03 msec; QTcD: 50.8±19.34 msec; II lot =QTD: 48.2±12.56 msec; QTcD: 53.9±17.21 msec; control lot=QTD: 35.88±10.22 msec; QTcD: 39.23±14.81 msec. The highest values of QT interval were found in strength-trained sporting teenagers. The highest values of QTD and QTcD were found in sporting teenagers from the second lot that it might be possible to have a higher ventricular arrhythmia risk. There wasn’t any case with QT interval value longer than the normal. Conclusions: At side of other parameters ECG, it is useful research screening of the QT interval and QTc interval dispersion during periodic controls, like indicator of the risk of the ventricular arrhythmias at sporting teenagers.

The author hereby declares no conflict of interest