**Results** Age was similar between men and women with 56.8±12.4 versus 56.2±14.5 years (p: NS). Ischemic heart disease was the main etiology for men (57.6%), but not for women (30%, p<0.05).

Patients’ CR characteristics are summarized in table.

**Abstract 0525** – Table: Patient’s clinical, echocardiographic and CPET’s characteristics

<table>
<thead>
<tr>
<th></th>
<th>Men (n=375)</th>
<th>Women (n=67)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before CR</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart Rate (bpm)</td>
<td>80.3±15.7</td>
<td>77.3±16.4</td>
<td>NS</td>
</tr>
<tr>
<td>Systolic blood pressure (mmHg)</td>
<td>109.8±19</td>
<td>102.8±19</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Left ventricle Ejection Fraction (%)</td>
<td>28.8±8.7</td>
<td>29.3±8.9</td>
<td>NS</td>
</tr>
<tr>
<td>CPET workload (watts)</td>
<td>76±27</td>
<td>58.1±20</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Peak oxygen uptake:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VO2 max (ml/kg/min)</td>
<td>56.2±17.8</td>
<td>63.9±22</td>
<td>NS</td>
</tr>
<tr>
<td>First ventilatory threshold (VT1) (ml/kg/min)</td>
<td>10.9±3.4</td>
<td>10.5±4</td>
<td>NS</td>
</tr>
<tr>
<td><strong>After CR</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart Rate (bpm)</td>
<td>76.8±14.6</td>
<td>75.4±14.3</td>
<td>NS</td>
</tr>
<tr>
<td>Systolic blood pressure (mmHg)</td>
<td>110.4±20.8</td>
<td>98.5±19.2</td>
<td>NS</td>
</tr>
<tr>
<td>CPET workload (watts)</td>
<td>92.5±32</td>
<td>67.8±20</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Peak oxygen uptake:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VO2 max (ml/kg/min)</td>
<td>18.2±5.7</td>
<td>16.1±4.8</td>
<td>NS</td>
</tr>
<tr>
<td>First ventilatory threshold (VT1) (ml/kg/min)</td>
<td>65.5±19.3</td>
<td>68.5±18</td>
<td>NS</td>
</tr>
</tbody>
</table>

The benefit on CPET strength was similar (24.8±33 W for men and 22.1±35.4 W for women, p: NS), and also for the VO2 max. There were no differences in treatments at discharge.

**Conclusion:** Women have the same benefits after CR for heart failure. Efforts must be provided to increase their referral to CR.

The author hereby declares no conflict of interest

0236

**Association of chronic kidney disease and cardiovascular disease in ambulatory cardiac rehabilitation center**

Aymen El Hraiech (1), Kamel Abdenbibi (2), Guy Amah (2)

(1) Hôpital Léopold Bellan, Paris, France – (2) Hôpital F. Bourguiba, Monastir, Tunisie

The author hereby declares no conflict of interest

0118

**Cardiorespiratory responses to incremental exercise in type 1 diabetic patients: a comparison between patients with poor and good glycaemia control**

Pierre-Marie Leprêtre’ (1), Elodie Ponsot (2), Stefan Sarnblad (2), Fawzi Kadi (2)

(1) Université de Picardie Jules Verne, Amiens, France – (2) Université d’Orobre, Orobre, Suede

The author hereby declares no conflict of interest

0136

**Impact of a multi-stage ultra-long duration exercise on left ventricular contractility indexes: an echocardiographic study using multi-layer speckle-tracking imaging**

Frédéric Chagué (1), Aurélie Gadjoncik (1), Carole Richard (1), Frédéric Compagnon (2), Vincent Humeau (2), Olivier Ganansia (3), Yves Cotin (3)

(1) CHU Dijon, Cardiologie, Dijon, France – (2) CHU Dijon, Urgences, Dijon, France – (3) Hôpital Saint-Joseph, Urgences, Paris, France

The author hereby declares no conflict of interest
function. We studied evolution of LV contractility indexes by serial examina-
tions during a multistage ULDE race.

Methods Successful echocardiographic assessment was performed on
20 well-trained athlete 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
Ayemen El Hraiech* (1), Kamel Abdenabi (2), Guy Amah (2)
(1) Hôpital Léopold Bellan, Paris, France – (2) Hôpital F. Bourguiba,
Monastir, Tunisie
*Corresponding author: elhraiech.aymen@yahoo.com (Ayemen El Hraiech)

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 dimen-
sions 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 ques-
tionary 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 compo-
nents after ambulatory 4 weeks cardiac rehabilitation program. (p<0.001).
Furthermore, the HAD scale decreased significantly at the end of the car-
diac 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 rehabilita-
tion approach (adapted physical activity sessions, personalized dietary follow-
up, psychological and therapeutic care).

The author hereby declares no conflict of interest

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
Héla Adala*, Donia Koubaa, Aref Ben Halima
Centre national de la médecine du sport, Tunis, Tunisie
*Corresponding author: helaskan@yahoo.fr (Héla Adala)

Introduction The cardiovascular assessment during the first medical examina-
tion of of noncounter-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 sportsmen 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%), profes-
sional players (9.23%), sporting pupils (50.19%) and arbitrators (9.23%).

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 com-
bination 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 insuffi-
ciency grade I) were observed in 17 athletes (9.9%). Six of them have benefited
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.

The author hereby declares no conflict of interest

0559

Research of QT and QTc intervals dispersion in sporting teenagers
Lavinia Dimitriu*, Alexandru Grigore Dimitriu
Centre Médical Medex, Iasi, Roumanie
*Corresponding author: laviniadimitriu@yahoo.com (Lavinia Dimitriu)

Athlete’s heart is a non-pathological condition commonly in athletes
ecorded to routinely exercise, which may be associated with other serious med-
ical 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 (QTCd) Bazzet’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; QTC: 50.81±19.34 msec. II lot:QTD: 48.23±12.56 msec; QTC: 53.9±17.21
msec; control lot:QTD: 38.8±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

© Elsevier Masson SAS. All rights reserved.