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**Clinical, electrocardiographic and echocardiographic analysis of 400 tunisian sporting students: Systematic evaluation results**

Héla Adala (1), Saida Ayachi (2), Dalila Day (3), Khaldoun Ben Hamda (4), Rafik Mankai (2), Habib Gamra (4)

(1) *Centre de médecine de sport, Médecine et Sciences du sport, Monastir, Tunisie* – (2) *centre national de médecine de sport, Tunis, Tunisie* – (3) *hôpital d'enfants de Tunis, Tunis, Tunisie* – (4) *CHU Fattouma Bourguiba de Monastir, Cardiologie, Monastir, Tunisie*

**Objectives:** Determine the frequency of various cardiovascular anomalies and atypical aspects in tunisian sporting student athletes and study sex, body area, sport's disciplines and sport's seniority influences on the clinical, electrocardiographic and echocardiographic parameters.

**Material and methods:** Population of 400 sporting students with an average age of 16 years and sex ratio of 2. They were mainly 168 athletes (42%) and 156 combat sportsmen (39%).

**Results:** The clinical examination revealed a functional systolic breath in 22 case, a mitral insufficiency systolic breath in 1 case. The resting ECG showed an incomplected "BBB" in 25 students, a first degree "BAV" in 1 case, a sinusal bradycardia in 4 cases, a sinusal tachycardia in 3 cases, a short PR in 5 cases and left ventricular hypertrophy by Sokolow index in 4 cases. Effort ECG was within the normal limits in all sportsmen. Echocardiography was normal in 398 cases. The mean left ventricular end-diastolic diameter ("DTD") was 47 mm and the mean left ventricular end-systolic diameter ("DTS") was 28 mm. The average of interventricular septum diastolic diameter (« SIV ») was 9 mm. The mean posterior wall thickness ("PP") was 8mm. Two cases of valvular heart disease were found having justified a final sport inability. The

anthropometric parameters and the sex appear to influence some electrocardiographic and echocardiographic parameters more than the sporting specialities.

**Conclusion:** This study suggests the interest of a clinical, electrocardiographic and echocardiographic exploration, within the medical standard assessment to sporting section integration.

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**Woman and marathon: impact on the heart?**

Jean-Michel Chevalier (1), Véronique Gardet (2), Pierre-Laurent Mas-soure (1), Marc Bascou (1), Frank Bire (1), François Carré (3), Hervé Douard (4)

(1) *Hôpital Robert Picqué, Cardiologie, Villenave D'Ornon, France* – (2) *Hôpital Robert Picqué, biochimie, Villenave D'Ornon, France* – (3) *Hôpital Pontchaillou, Rennes, France* – (4) *Hôpital Haut-Lévêque, Cardiologie, Pessac, France*

During the 2008 "Marathon du Medoc", 67 healthy voluntary female runners (47±7 years) had clinical, ECG and biological evaluation before the race, at the arrival (T2) and 3 hours after (T3). Mean NT-pro-BNP value significantly increased from 31 to 117 ng/L at T2 and was at 126 ng/l at T3. Nineteen (28%) had values >150 ng/l without clinical or ECG signs. CTnIc increased transiently (ranging from 0.20 to 1,64 ng/l) in 4 racers and decrease after. One had an initial inflammatory syndrome and finished exhausted. 3 another runners had moderate and transient creatinine increase. None had ECG abnormality. Marathon has no heart impact in woman who respects advice of regular training, correct hydratation and running without fever!