

## The Master athlete: An extraordinary physiological model of aging study, a delicate issue for cardiologists and sports physicians

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The prolongation of average life in the industrialized countries and the definitive demonstration of preventive and therapeutic role of regular physical exercise and sport, have greatly increased the number of middle-aged and older subjects engaged in the regular practice of sports activities, not only for fun or healthy purposes, but also at competitive level. The creation by sports federations of age categories (five years in five years) has strengthened the agonistic nature of the activity. Master athletes compete not only against adversaries of the same age group but even against themselves and the Time flowing inexorably. At the scientific and clinical level, two are the fundamental implications of this phenomenon. The first is the positive effect of a regular and intense performance training, both anaerobic and aerobic power. In the latter, regular and intense training is able to slow down significantly (even 50%) the natural, progressive decline of cardiorespiratory functions observed in healthy sedentary subjects of the same age. The second, the reverse of the medal, is the difficulty encountered by sports physician and cardiologist to correctly interpret the clinical/instrumental features of the Master athlete who undergoes pre-participation screening for competitive sports. It is not always easy to differentiate the physiological, adaptive, changes of a middle-aged and older athlete from the pathological ones, related to cardiovascular disease, typical of aging, such as ischemic heart disease, arrhythmias, hypertension, valvular diseases. These difficulties can only be solved by having an adequate knowledge of the clinical and instrumental manifestations of the Master Athlete's Heart and individual cardiopathies, and with the careful use of all modern cardiological instrumental investigations. In addition to echocardiography and maximal ECG stress-test (preferably cardio-pulmonary test), the magnetic resonance imaging with Gadolinium, and coronary tomography (TC) are playing a decisive role. [1]

### References

P. Zeppilli et. Problemi cardiologici dell'attività sportiva nell'atleta master. In: P. Zeppilli. *Cardiologia dello Sport*. CESI ed., Roma 2014.

### Keywords

Master Athlete, anaerobic and aerobic power, aging, cardiovascular diseases