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Adaptive physiology or cardiovascular dysfunction - How to optimize diagnostic management in athletes?

Athletic training presents a burden on the cardiovascular system and can pose a significant risk in athletes with undetected heart anomaly. Asymptomatic or symptomatic heart abnormality in athletes usually includes ventricular systolic or diastolic dysfunction caused by myocarditis, ischaemia, and hypertensive, hypertrophic or dilated cardiomyopathy. Nonetheless, other cardiac pathologies such as congenital or acquired heart dysfunction and valve defects can also contribute to cardiovascular fatalities in athletes. A growing interest in sports activities raises concerns regarding the safety of exercise in athletes with various cardiovascular anomalies. In recreational sports, the incidence of sudden cardiac death and cardiovascular comorbidities is higher than expected and may even increase as more and older individuals participate in organized sports. The risk of unrecognized symptomatic or asymptomatic left ventricle remodeling with subsequent heart dysfunction or heart failure in athletes increases with age. Moreover, a greater number of patients with a history of cancer treated with cardiotoxic therapy seek participation in sports. Equipped with an improved diagnostic and treatment armamentarium, and faced with a growing number of “at risks” participants, sports cardiologists will be increasingly faced with the dilemma of qualifying this population for exercise. The various aspects of cardiac hypertrophy, their relevance for understanding the differential diagnostic process, pathophysiological mechanisms of cardiovascular dysfunction in athletes and whole array of diagnostic tools used in the specific group including ECG, cardiopulmonary exercise testing and advanced imaging techniques are discussed.

Biography

Robert Skalik is a Consultant in Cardiology at two hospitals (Regional General Hospital, Krotoszyn and Leszno Medical Centre “Ventriculus”, Leszno, Poland) and outpatient Cardiology Clinics in Wrocław. He is an academic Teacher in Department of Physiology, Medical University of Wrocław, Poland, former Consultant in Cardiology and Echocardiography, Department of Cardiac Surgery and Cardiology, Medical University of Wrocław. He completed his PhD in Echocardiography at Medical University of Wrocław, Poland. He completed his internship in Department of Cardiology, Free University of Amsterdam, Netherlands. He was a Lecturer at Post-graduate School of Cardiology, University of Perugia, Italy. He is a member of editorial and review boards for medical journals: Clinical and Medical Investigations, Journal of Cardiovascular Disorders, SRL Cardiology, Annals of Cardiology and Cardiovascular Diseases, Reviewer of International Journal of Cardiology, Expert Review of Cardiovascular Therapy, Reviewer of research projects on Cardiovascular Medicine and Physiology co-funded by European Commission, Author of 107 published reports.

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