34.3.5 - Pre-Competition Screening and Sports Eligibility

11147
SARS-CoV-2 infection and return-to-play in junior competitive athletes: is systematic cardiac screening needed?

Cavigli L Doctor, Cillis M Doctor, Mochi V Doctor, Frascaro F Doctor, Mochi N Doctor, Hajdarevic A Doctor, Roselli A Doctor, Capitani M Doctor, Alvino F Doctor, Lisi C Doctor, Mandoli GE Doctor, Valente S Doctor, Focardi M Doctor, Cameli M Associate Professor, D'ascenzi F Associate Professor

University of Siena, Department of Medical Biotechnologies, Division of Cardiology, Siena, Italy
Sports Medicine Unit, USL Toscana Centro, Italy, Firenze, Italy
Medical Lab, Center for Sports Medicine and Rehabilitation, Asti, Italy
Institute of Sports Medicine, Firenze, Italy
Center for Sports Medicine, National Health Service, Siena, Italy
University Hospital of Siena, Cardio-Thoracic and Vascular Department, Clinical and Surgical Cardiology Unit, Siena, Italy

Funding Acknowledgements: Type of funding sources: None.

Background: SARS-CoV-2 infection might be associated with cardiac complications in low-risk populations, such as in competitive athletes. However, data obtained in adults cannot be directly transferred to preadolescents and adolescents that are less susceptible to adverse clinical outcomes and are often asymptomatic.

Purpose: We conducted this prospective multi-centre study to describe the incidence of cardiovascular complications following SARS-CoV-2 infection in a large cohort of junior athletes and to examine the effectiveness of a screening protocol for a safe return-to-play.

Methods: Junior competitive athletes suffering from asymptomatic or mildly symptomatic SARS-CoV-2 infection underwent cardiac screening, including physical examination, 12-lead resting electrocardiogram (ECG), echocardiogram, and exercise ECG testing. Further investigations were performed in cases of abnormal findings.

Results: A total of 571 competitive junior athletes (14.3±2.5 years) were evaluated. About half of the population (50.3%) was mildly symptomatic during SARS-CoV-2 infection, and the average duration of symptoms was 4±1 days. Pericardial involvement was found in 3.2% of junior athletes: small pericardial effusion (2.6%), moderate pericardial effusion (0.2%), and pericarditis (0.4%). No relevant arrhythmias or myocardial inflammation were found in subjects with pericardial involvement. Athletes with pericarditis or moderate pericardial effusion were temporarily disqualified, and a gradual return-to-play was achieved after complete clinical resolution.

Conclusions: The prevalence of cardiac involvement was low in junior athletes after asymptomatic or mild SARS-CoV-2 infection. A screening strategy primarily driven by cardiac symptoms, ECG abnormalities and arrhythmias at rest and/or during exercise should detect cardiac involvement from SARS-CoV-2 infection in most junior athletes. Systematic echocardiographic screening is not recommended in junior athletes.