

34.3.5 - Pre-Competition Screening and Sports Eligibility

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Low prevalence of cardiac abnormalities in competitive athletes before the return-to-play after COVID-19 based on the Italian strategy

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Background: Conflicting results on the cardiovascular involvement after SARS-CoV-2 infection generated concerns on the safety of return-to-play (RTP) in the athletic population. However, data are limited to the approached based on Troponine, ECG and echocardiogram while the data on exercise test are scarce.

Purpose: Aim of the study was to evaluate the prevalence of cardiac involvement after COVID-19 in competitive athletes for the RTP applying a comprehensive cardiovascular evaluation.

Methods: Since October 2020, all consecutive competitive athletes (age ≥ 14 years) presented to our Institute after COVID-19 prior RTP were enrolled. The protocol was dictated by the Italian governing bodies and comprised: 12-lead ECG, blood test, cardiopulmonary exercise test (CPET), 24-hours ECG monitoring, spirometry. Cardiovascular Magnetic Resonance (CMR) was performed based on clinical indication.

Results: 219 competitive athletes were enrolled (59% male), age 23 years (19,27): 20% asymptomatic, 77% mildly asymptomatic, 2% had pneumonia. The evaluation was performed after a median of 10 days (6-17 days) from negative SARS-CoV-2 swab. All athletes had a good performance at CPET. Uncommon premature ventricular contractions (PVCs) were found in 10% (n=21) and were detected by CPET. Two athletes (1%) were finally diagnosed with acute myocarditis (confirmed by CMR) and another had newly diagnosed mild pericardial effusion (Figure). All the three athletes were temporally refrain from sport participation.

Conclusions: Cardiac abnormalities in competitive athletes screened after COVID-19 resolution were detected in a minority of the cases (1.4%). No one of the remaining athletes had abnormalities by imaging or laboratory test neither reduction in cardiopulmonary fitness. Our data are in line with those reporting low prevalence of cardiovascular complication in mildly symptomatic or symptomatic athletes.

