

**460 Assessment of long-term arrhythmic sequelae in patients recovering from COVID-19 infection**

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**Aims:** COVID-19 has been associated with acute cardiac complications including cardiac arrhythmias. We aimed to assess the prevalence of long-term cardiac arrhythmias in patients recovering from severe COVID-19 infection with proved or suspected of cardiac involvement.

**Methods and results:** All patients with COVID-19 infection discharged from the cardiology department of our institution from the 1 March to the 30 April 2020 were considered eligible for this study. Patients were fitted out with an adhesive patch and a wireless single-lead 24-h electrocardiogram (ECG) Holter monitor (Rooti Rx<sup>®</sup> System, Rooti Labs Ltd, Taipei, Taiwan). RootiRx<sup>®</sup> is a small device consisting of an integrated sensor system, a microelectronic board with memory storage, and an internal rechargeable battery. This system can provide continuous ECG and was set to monitor heart rhythm for 24 h. The Holter system provides also blood pressure measurements and sleep apnea data which are evaluated through chest wall motion/cyclic variation of heart rate and reported along with the sleep efficiency (percentage of time spent asleep while in bed). Arrhythmic findings, sleep apnea detections, and residual COVID-19 symptoms were reported. The study follow-up was performed 174 (range = 166-190) days after hospital discharge in a cohort of 63 (76% males,

median age 66 years) patients. New diagnosis of atrial fibrillation (AF) was performed in three sinus rhythm patients (4.8%). Eleven (18%) patients had asymptomatic bradycardia (<45 b.p.m.) with no pauses lasting more than 3 s. Non-sustained ventricular tachycardia (<30 s) episodes were recorded in two (3.2%) patients, while no sustained ventricular arrhythmia was documented. The Holter system indicated the presence of moderate-to-severe obstructive sleep apnea episodes in 33 (53%) patients without known history of sleep disorders. Some previously unrecognized long-lasting COVID-19 symptoms were also described: fatigue (10, 16%), myalgia (3, 4.8%), and impaired attention (1, 1.6%).

**Conclusions:** Six months after the infection, we performed new diagnoses of AF in patients who recovered from severe COVID-19 infection with proved or suspected cardiac involvement using 24-h Holter monitoring. No other arrhythmias were observed, but the Holter system identified obstructive sleep apnea episodes in half of the patients. A relevant percentage of patients also described persisting symptoms of COVID-19 infection. These findings suggest further prospective studies to better describe long-term arrhythmic manifestations and residual symptoms in patients hospitalized with COVID-19 infection.