Aims: Subclinical myocardial damage is not uncommon in COVID-19 patients, likely reflecting a combination of direct viral toxicity with the activation of an uncontrolled autoimmune response usually developing during the cytokine storm phase. Whilst myocardial involvement in hospitalized patients has been extensively described in literature, no data are currently available for non-hospitalized individuals. Present study aimed to explore prevalence and impact on patients’ management of myocardial damage detected with CMR, in a cohort of consecutive non-hospitalized SARS-CoV-2 infection patients.

Methods and results: We conducted a single centre prospective observational study on 31 consecutive patients with previous COVID-19 who underwent CMR between October 2020 and June 2021 without requiring hospital admission. Myocarditis was defined by CMR according to the revised Lake Louise Criteria (LLC), if at least one criterion was positive: T2-based marker for myocardial oedema and T1-based marker for associated myocardial injury. Our patients’ cohort included 31 individuals with a mean age of 42.5 ± 17.4 years (20 males; 64.3%) with mean follow-up time of 365.8 ± 89 days between first positive PCR and last clinical evaluation. CMR evidence of cardiac involvement was observed in six patients (19.3%)—including two acute (of which one with pericardial inflammation), one subacute and three healed myocarditis. CMR abnormalities were associated with a higher percentage of palpitations (83% vs. 24%, \( P < 0.001 \)) and chest pain (66% vs. 16%, \( P = 0.026 \)) during the active phase of COVID-19. In all CMR positive cases, a tailored therapeutic approach was established consisting with the administration of cardioactive therapy with beta-blockers. All cases were uneventful during the follow-up period.
Conclusions: Our data showed a 19.3% prevalence of unexpected/subclinical myocardial involvement in a cohort of 31 consecutive non-hospitalized patients with previous SARS-CoV-2 infection. CMR findings were retrospectively associated with cardiac symptoms during the acute phase and yielded a change in clinical and therapeutic management in all positive cases. A better knowledge of symptomatic course of COVID-19 could help physicians to adequately select individuals in which CMR may show signs of cardiac damage.