Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Editorial

Pericarditis in long COVID-19

In the manuscript by Lloyd Dini et al. [1] published in IJC, 180 patients previously affected by COVID-19 infection were evaluated. Among these, 39 (22%) suffered from acute pericarditis after at least 12 weeks from a negative swab for SARS-CoV2 nucleic acid. Several variables such as female gender, presence of chest pain, history of autoimmune and allergic disorders, and palpitations/arrhythmias were risk factors for the development of acute pericarditis. Most cases of pericarditis in the general population are idiopathic, and the current opinion is that these cases could be caused by viral infections.

Long COVID is defined as persistent symptoms ≥3–4 weeks from the initial onset of COVID-19 infection [2]. Dixit et al. [3] report in a detailed review of the literature the most common cardiovascular symptoms in post-acute COVID syndrome or long COVID-19 including palpitations, dizziness, tachycardia at rest, typical anginal chest pain, and atypical chest pain. Patients with COVID-19 have 3 times higher likelihood of a major adverse cardiac event, like myocarditis, atrial fibrillation, coronary heart disease, and pericarditis at a median of 5 months after discharge in comparison to age, sex, and risk factors matched controls without COVID-19. Pericarditis effusion is relatively common, but symptomatic pericarditis is rare in long-COVID-19.

Tuvali et al. [4] performed a retrospective study analyzing a large population using the ICD10 diagnostic inpatient codes for pericarditis (I30, I30.0, I30.9). Patients with a first vaccination against SARS-CoV-2 received before COVID-19 infection were excluded (n = 16,632), resulting in the final COVID-19 cohort (n = 196,992). Patients were followed for 10 days post-COVID-19 infection and 6 months from infection. The investigation of this large not vaccinated population, did not demonstrate an increase in the incidence of pericarditis from day 10 after positive SARS-CoV-2 test. However, the Authors highlight several limitations of the study as the small number of cases of pericarditis and the short follow up despite the elevated number of participants.

Buckley et al. [5] reported 10,706 (1.5%) pericarditis cases in another retrospective cohort study of 718,365 patients with COVID-19. Six month - all cause mortality was 15.5% (n = 816) for pericarditis with respect to controls without pericarditis ($p < .0001$). Notably, risks of re-hospitalization, cardiac arrest, incident heart failure, incident atrial fibrillation, acute myocardial infarction were higher in pericarditis cohort compared with controls. Myocarditis was more present than pericarditis, the latter was more associated to cardiac adverse complications.

Of interest, in a Danish registry of 8000 patients with pericarditis, the 5-year mortality was 7.1% compared with 4.2% in controls without pericarditis [6].

Shi et al. [7] reported common cardiac damage (19.7%) in 416 hospitalized patients with COVID-19 in Wuhan (China). The mortality of patients with cardiac damage (51.2%) was higher than that of those without and those treated in intensive care unit were more likely to have cardiac damage. Moreover, the mortality of COVID-19 patients with myocarditis / pericarditis association was significantly higher than all-cause mortality. Furthermore, the outcome of COVID-19 patients with myocarditis / pericarditis was poorer compared to patients with COVID-19 only. Of note, although myocarditis was more prevalent, pericarditis was associated with a higher risk of mortality.

In summary the investigation by Llyod Dini et al. [1] confirms the data reported in the literature showing that pericarditis is a major cardiac complication in COVID-19 infection. However large prospective clinical trials are required for a more accurate assessment of the incidence of pericarditis in acute and long COVID-19 infection.

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