Pericarditis aguda secundaria a covid-19 ¿una enfermedad infradiagnosticada?

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ACUTE PERICARDITIS DUE TO COVID-19 INFECTION: AN UNDERDIAGNOSED DISEASE?

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* Relevance:

This is the first case report to describe an acute pericarditis episode due to SARS-CoV-2, which might be an under diagnosed condition in this pandemic, and therefore not correctly managed.

* Ethics:

This work has not been supported by public grants or financial support. No sources of funding were used to assist in the preparation of this case report. The author certifies that he has no commercial associations that might pose a conflict of interest in connection with the submitted article. I certify that the reporting of this case was conducted in conformity with ethical principles of our institution.

We have obtained written informed consent from the patient.

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Dear Editor,

The 11th of March of 2020, the World Health Organization declared a pandemic caused by a novel coronavirus, named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). The infection mainly causes respiratory tract symptoms.

Acute pericarditis is the inflammatory condition that affects the sac surrounding the heart, which is most often due to viral infections1. Currently, to establish the diagnosis, it is essential the use of ultrasound1.

We herein report a case of a healthy 35-year-old woman who presented to the emergency department (ED) with dry cough, anosmia, malaise and low-grade fever. A nasopharyngeal swab for SARS-CoV-2 test was done, being positive. Lung Point-of-Care Ultrasonography (POCUS) was performed, showing a thickened pleural line with prominent B-lines and subpleural consolidations in posterior lower lobes. No pleural effusion was detected. Since she had no comorbidities but had lung abnormalities, she was discharged with hydroxychloroquine 200mg bid during 7 days (off-label use)2.

On the 6th day of home isolation, she reported a prolonged pleuritic centrothoracic chest pain that improved sitting forward and worsened with supine position. The physical exam was unremarkable. The pain was attributed to the lung involvement of the disease, and she was advised to monitor her oxygen saturation and step-up pain medication.

As the pain worsened after two days, a POCUS was performed at home showing the presence of a small pericardial effusion. There was a good biventricular function, an absence of valve disease, cavity growth, or ventricular hypertrophy. She was advised to return to the ED to complete the exam.

The electrocardiography (ECG) revealed a sinus rhythm at 89 bpm with T wave inversion in the inferior leads (II, III and aVF). Laboratory tests showed WBC 3.39×10^3/µL [normal: 3.9-10.2] (62.3% neutrophils; 28.3% lymphocytes), LDH 229 IU/L [100-190], Fibrinogen 562 mg/L [150-450], D-dimer 345 ng/mL [0-500], CRP 5.7 mg/dL [0-5], CK 50 IU/L [35-210],
Troponin 3.5 mg/L [0-34.1] and NT-proBNP <35 pg/mL [0-125]. The liver and kidney function were within normal values.

With these findings, she was diagnosis of acute pericarditis, meeting 2 of the 4 criteria: typical pain and pericardial effusion. At that moment, she started with colchicine 0.5 mg OD for two weeks. The following day she reported the resolution of the pain.

The etiology of acute pericarditis is highly variable, when no cause is identified, it is usually assumed to be viral or immunomediated, with a good long-term prognosis. In these patients, colchicine has demonstrated to reduce symptoms, decreasing the leukocyte motility and phagocytosis observed in inflammatory responses, and is generally well tolerated. Poor prognostic factors include the presence of a large pericardial effusion, tamponade, myopericarditis, high CRP or lack of response to colchicine. Therefore, when acute pericarditis is suspected, it is mandatory to obtain an ECG, a blood test with inflammatory and myocardial injury parameters and a transthoracic echocardiography.

There is growing literature regarding the affection of the cardiovascular system in COVID-19 infection. Cardiac injury (troponin I elevation, ECG and echocardiography abnormalities) across different studies, which is around 7.2% of the patients, arrythmia was found in 16.7%. In another study, 83 patients with severe and critical COVID-19 infection underwent a CT scan, chest pain was reported in 6% of the patients and pericardial effusion was found in 4.8%, which suggests that acute pericarditis could be an under diagnosed pathology, and therefore, not correctly managed and treated. Continued observations of the cardiovascular complications of the disease are needed.

POCUS is a fast, cost-effective and safe tool performed by the physician in charge of the patient, which allows diagnosing and monitoring nonspecific symptoms in order to rule out urgent conditions.

As resources become scarce, the findings in this report raise the question as to whether home POCUS, could be effectively established a means of extending hospital capacity in borderline
patients as a novel care path, and in these patients diagnosed with acute pericarditis, colchicine could be a potential therapy worth to be initiated.

To our knowledge, this is the first report to describe acute pericarditis due to SARS-CoV-2, which might be an under diagnosed condition in this pandemic. We want to share our findings, given the urgent need for different diagnostic and therapeutic strategies in order to better manage COVID-19 patients, and diminish the SARS-CoV-2 complications.

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