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Chest Pain in COVID-19 Patients May not Refer to Cardiac Ischemia

Entezar Mehrabi Nasab[1], Seyyed Shamsadin Athari[2*]

[1]Cardiologist, Department of Cardiology, School of Medicine, Tehran Heart Center, Tehran University of Medical Sciences, Tehran, Iran; [2]Immunologist, Department of Immunology, School of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran

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***Correspondence**
Email: SS.Athari@gmail.com
Tel: + 982433140297
Fax: +982433140297

Dear Editor

The coronavirus disease pandemic 2019 (COVID-19) has inflicted many populations with respiratory system problems worldwide. Patients with COVID-19 have a wide range of symptoms such as shortness of breath, cough, fever, chills, headache, muscle pain, respiratory failure, septic shock, and acute respiratory distress syndrome (ARDS) [1].

One of the symptoms of COVID-19 can be chest pain. Chest pain has different types and outcomes according to its underlying causes with various etiologies involved. The most common heart problems that cause chest pain include 1) pericarditis characterized by a sharp and sudden pain worsening with breathing (pleuritic pain), 2) angina or coronary heart syndrome, which causes typical chest pain characterized by an intense sub-sternal pressure radiating up to the neck, jaws, shoulders, and the left arm, and 3) aortic dissection which presents with severe pain and a feeling of tearing in the chest. There are several non-cardiac causes of chest pain, such as costochondritis, sore muscles, trauma to ribs, pulmonary embolism, pleurisy, pulmonary collapse and hypertension, and gastric problems [2-4].

In evaluating the COVID-19 patients referred to the cardiology clinic of the Shohada hospital of Sarpol-e Zahab, Kermanshah Province, we found that young patients with mild COVID-19 disease often complained of atypical chest pain (ACP). All the mentioned young patients had mild, spotted, and non-functional chest pain, which was not the typical acute coronary syndrome or pericarditis. In most patients, electrocardiography (ECG) was normal, and there were no ischemic changes. There was no evidence of pericarditis, no regional wall motion, and no pericardial effusion observed in ECG. Pulmonary artery pressure was normal. An exercise tolerance test in patients with coronary heart disease risk factors revealed normal results in most individuals. In patients with abnormal exercise tolerance tests, myocardial perfusion imaging (MPI) and computed tomography angiography (CTA) revealed evidence of coronary involvement, only in a few patients.

In conclusion, it seems that a high percentage of COVID-19 patients who complain of chest pain have no cardiovascular diseases. Chest pain is one of the significant reasons for COVID-19 patients' referrals to

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heart clinics, imposing extra costs on countries' health care systems.

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CONFLICT OF INTEREST

The authors claim that there is no conflict of interest associated with this article.

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