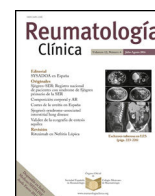




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Letter to the Editor

Osteomuscular and autoimmune manifestations of long COVID in Mexico



Manifestaciones osteomusculares y autoinmunes del COVID persistente en México

Dear Editor,

Persistent COVID, defined as the persistence of COVID-19 symptoms for more than four weeks after infection,¹ affects more than 65 million people after the pandemic, although more alarming figures speak of up to 200 million individuals affected,^{2,3} highlighting major neuropsychiatric involvement, with symptoms such as headache, mental fog, dysthymia, anxiety, depression, and even psychotic symptoms, followed by a wide range of symptoms that have been calculated to exceed 200 in number and that comprise this syndrome.³ In large European and North American series, cardiovascular, gastrointestinal, and pulmonary manifestations feature prominently; however, in some series, fatigue is reported in up to 72% of hospitalised patients and in 44% of patients discharged from hospital.⁴ In Mexico, the results of an online survey conducted through the Google forms platform (https://docs.google.com/forms/d/1_ZvFXgNH5rvTgm_Dha2ktm16lp3nM5ADgflx_Q7i4zl/prefill) have stood out, in which the most prevalent symptoms, after neuropsychiatric symptoms, are musculoskeletal manifestations. In this survey, containing 338 responses from Mexican patients who meet the criteria for persistent COVID, the average age is 41 years old, women account for 69%, and the main risk factors are: overweight/ obesity 41%, diabetes 16.3%, and arterial hypertension 16%; of special note, 43.5% reported having been healthy prior to COVID-19. As regards the COVID-19 symptoms they suffered as a background to persistent COVID, 42% reported having had two prior episodes of COVID-19; 30% reported one episode of COVID-19 before the onset of persistent symptoms, and 28% had three previous episodes of acute COVID-19; Of these, 77% reported mild or ambulatory symptoms; 13%, severe (requiring hospital admission or even intensive care), and 10%, both. As for vaccination status, 45% reported having three vaccinations; 36% had two; 9% had one, and 10% had not been vaccinated. The symptomatology by apparatus and systems reported 90% neuropsychiatric, 87.6% musculoskeletal, 82.2% cardiovascular, 78.1% gastrointestinal, and 71.3% pulmonary manifestations. Of the most prevalent musculoskeletal manifestations, the following were reported: fatigue 76%, bone or joint pain 71.3%, muscle pain 40.2%, joint inflammation 28.1%, loss of muscle strength 26.6%, and muscle wasting 22.8%. It is also worth pointing out that 9.5% of the respondents reported having developed autoimmune diseases post COVID-19, with systemic lupus erythematosus being the most

frequently cited in 75% of respondents; other conditions reported were rheumatoid arthritis (19%) and autoimmune thyroiditis (6%).

In the Mexican population, the manifestations of persistent COVID are consistent with reports from around the world where neuropsychiatric manifestations are the most prevalent; however, the second most prevalent manifestations in this population were musculoskeletal manifestations and the development of autoimmune diseases. This has been previously documented in published studies in which there is an increased risk of autoimmune diseases associated with COVID-19 in up to 42.6% of chronic patients,⁵ as well as a 3.2-fold increased risk of ankylosing spondylitis, a 3.14-fold greater risk of mixed connective tissue disease, a 2.99-fold higher risk of lupus erythematosus, and a 2.98-fold increased risk of rheumatoid arthritis, among other diseases.⁶ According to a systematic review of the systematic manifestations of osteomuscular manifestations in the population of patients with COVID-19, the risk of developing autoimmune diseases in the population of patients with COVID-19 has increased to 42.6%. According to a systematic review of musculoskeletal manifestations of COVID-19, the musculoskeletal manifestations associated with persistent COVID are: fatigue, arthralgia, myalgia, back pain of new onset, muscle weakness, and poor physical performance,⁷ which are consistent with our results. These findings suggest that persistent COVID patients in Mexico will have chronic musculoskeletal symptomatology and may subsequently develop autoimmune diseases that will be a challenge for clinicians and rheumatologists; as a result, diagnostic and treatment protocols, together with the other symptomatology, will pose a clinical challenge and will certainly merit multidisciplinary management.

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