



The Relevance of Myalgia as a Symptom of SARS-CoV-2 Infection to Persistent Musculoskeletal Pain as Long-Term post-COVID Sequelae: A Case-Control Study

C Fernández-de-las-Peñas; J Rodríguez-Jiménez; S Fuensalida-Novo; M Palacios-Ceña; V Gómez-Mayordomo; L Florencio; L Arendt-Nielsen

1 Department of Physical Therapy, Occupational Therapy, Physical Medicine and Rehabilitation, Universidad Rey Juan Carlos (URJC), Madrid, SPAIN.

2 Center for Neuroplasticity and Pain (CNAP), SMI, Department of Health Science and Technology, Faculty of Medicine, Aalborg University, Aalborg, DENMARK

3 Department of Neurology, Hospital Clínico San Carlos, Madrid, SPAIN

e-mail: cesar.fernandez@urjc.es

Background and Aim

Patients affected by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) can present with symptoms affecting different systems. The presence of generalised myalgia (viral-induced myalgia) is a common symptom of the acute phase of coronavirus 2, 2019 disease (COVID-19). This study investigated the association between COVID-related myalgia experienced by patient at hospital admission and the presence of long-term post-COVID symptoms.

Methods

A case-control study including individuals hospitalised due to SARS-CoV-2 infection during the first wave of the pandemic (from February 20 to May 31, 2020) was conducted. Patients reporting myalgia as COVID-19 symptom at hospital admission were considered cases whereas patients without myalgia at hospital admission were considered controls. All participants were scheduled for a telephone interview 7 months after hospital discharge. Clinical and hospitalisation data were collected from hospital medical records. A predetermined list of post-COVID symptoms was systematically evaluated. Further, participants were invited to freely report any other symptom. Particular attention was paid to musculoskeletal post-COVID pain. Anxiety/depressive levels and sleep quality were likewise assessed.

Results

From a total 1,200 hospitalised COVID-19 patients, 369 with and 369 without myalgia at hospital admission were assessed 7.2 months (SD 0.6) after hospital discharge. No differences in the number of general post-COVID symptoms (OR 1.09, 95%CI 0.98-1.20, P=0.1) between individuals with and without myalgia at hospital admission were observed. No differences in fatigue, dyspnoea, anxiety/depressive levels or sleep quality were either found between the myalgia and non-myalgia groups. The prevalence of musculoskeletal post-COVID pain in the total sample was up to 38%. A higher proportion of patients reporting myalgia at hospital admission (OR 1.41, 95%CI 1.04-1.90) exhibited musculoskeletal post-COVID pain when compared to those without myalgia as symptom at hospital admission. The presence of myalgia at hospital admission was associated with pre-existing history of musculoskeletal pain (OR1.62, 95%CI 1.10-2.40). Fifty percent of patients with pre-existing musculoskeletal pain reported a worsening of their symptoms, e.g., increase on intensity, frequency or pain extension, after COVID-19.

Conclusions

The presence of myalgia at the acute COVID-19 phase was associated with musculoskeletal pain as long-term post-COVID sequelae. Additionally, half of patients with pre-existing pain conditions experienced a persistent exacerbation of their previous syndromes. Identification of patients at risk of developing post-COVID musculoskeletal pain could lead to better therapeutic strategies

Relevance to Patient Care

This is the first study identifying that the presence of myalgia as a symptom of acute COVID-19 is a risk factor for the development of post-COVID musculoskeletal pain. Early identification and proper management of myalgia at the acute phase of the infection could prevent future sequelae.

