EDITORIAL

Post–COVID-19 neurological symptoms
Síntomas neurológicos post-COVID-19

It was somewhat to be expected that COVID-19 would lead to several neurological manifestations during the primary infection, as well as subsequent persistent symptoms. The Manual COVID-19 para el neurólogo general (COVID-19 handbook for general neurologists), published by the Spanish Society of Neurology on 20 April 2020, included a chapter analysing the neurological manifestations reported during the Middle East respiratory syndrome (MERS) outbreak of 2012 and the severe acute respiratory syndrome (SARS) outbreak of 2002, also caused by coronaviruses. It was unsurprising that patients with COVID-19 may present such neurological symptoms and syndromes as headache, myalgia, confusion, and various types of neuropathies at onset or during the acute phase. However, the high frequency and specificity of anosmia as an early symptom and the association with thrombotic events and severe encephalopathies in more torpid forms of the disease was unexpected.

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The more canonical and recent designation "post–acute COVID-19 syndrome" (PACS) is more appropriate and has less negative connotations, though it is still not perfect. For these reasons, in this special issue of Neurology Perspectives, we have preferentially used the term "post–COVID-19 symptoms," as the heterogeneity of the neurological symptoms described and the potential mechanisms of the disease, which are largely unknown, make their classification as a syndrome seem somewhat forced. We believe that this classification is more realistic and sincere, and leaves almost no connotations open to interpretation.

This clinical heterogeneity of post–COVID-19 neurological symptoms becomes apparent when we observe the spectrum of possible scenarios, which are not mutually exclusive: sequelae of prolonged hospitalisation or ICU stays, such as critical illness neuromyopathy; sequelae of neurological complications in the acute phase of the disease, ranging from long-term anosmia to the sequelae of large-vessel stroke; immune-mediated neurological conditions, such as...
Guillain-Barré syndrome; and finally, post-COVID-19 symptoms of unknown aetiology and variable clinical expression, such as dysautonomia, phenotypes resembling fibromyalgia, persistent headache, and potentially incapacitating cognitive complaints. Although these scenarios constitute well-defined categories, they may be shared by many patients, especially those with less clinically severe neurological symptoms during the acute phase, such as anosmia, headache, or myalgia. These manifestations may persist over time or even emerge after resolution of the infection, creating the mysterious constellation of symptoms unfortunately classified as chronic COVID syndrome or persistent COVID-19, which are more frequent in younger patients with milder COVID-19.

This variety of manifestations constituted a challenge when defining the focus of this special issue, as several different approaches could have been taken. Therefore, after an introduction addressing the epidemiology, pathophysiology, and classification of the condition, we opted to present it according to the main neurological symptom groups by intensity, disability, or frequency: cognitive symptoms, symptoms of possible peripheral neurological origin, and persistent headache after COVID-19. We do not address sleep disorders or psychopathological symptoms, among others, which are frequently associated with the above-mentioned signs.

Neither do we address in detail the functional character of some of these symptoms, for which a growing body of literature is available. In this sense, some authors have suggested that less specific post-COVID-19 symptoms, classified as chronic COVID syndrome, persistent COVID-19, or long COVID, may represent the first condition defined by patients, who, unable to be attended by physicians who were unfamiliar with or dismissed the symptoms, saw their experiences reflected in social media posts by other people.6,7; this is an illness collectively shaped and named by patients, distorting the way in which the natural history of a new disease is mapped out by conventional scientific methods.8 This possibility, far from justifying the symptoms, involves interspersed truths: many physicians have also been patients, and the information overload that we have had to deal with since the beginning of the pandemic has added a highly significant and unprecedented psychosocial component that has catalysed or perpetuated symptoms. Regarding the latter point, a key study including 26 823 patients from a French population-based cohort has been recently published (8 November 2021). Self-reported infection was published (8 November 2021). Self-reported infection was significantly associated with the above-mentioned signs. Regard-

The articles in this issue were drafted between July and October 2021. Being aware that these symptoms are still in process of being defined, “symptoms in the mist” if we may permit ourselves the expression, we deemed it appropriate, and above all necessary, to publish this special issue on the main post-COVID-19 neurological symptoms. Considering the limited references in the literature, and aware that we will soon have answers from relevant studies that have already been published10,11,12 or are underway, we asked all the authors to make an effort to review, organise, clarify, and even forecast groups of symptoms. All of those involved, both authors and editors, are aware of the ephemeral value of this collective task, but establishing some degree of order amongst this chaos is well worth the time and dedication.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.neurop.2021.11.001.

References


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