



EDITORIAL

Clinical Manifestations in the Pediatric Patient with Post-COVID-19 Syndrome: A New Challenge for the Preservation of Functional Capacity

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The COVID-19 pandemic has raised numerous questions about the prognosis of those affected by this disease, especially in children. Based on cases described in the literature, Nakra, et al. [1] investigated a severe condition about which little is currently known: Multisystemic inflammatory syndrome in children associated with COVID-19. The authors hypothesized pathogenic mechanisms, and reported which were the most frequent clinical manifestations, taking into account that this syndrome can present itself in many forms, depending on the number of target organs affected [1]. However, they also mentioned that in some cases the development of this syndrome occurred after the acute phase of the disease, the post-COVID 19 phase, and although they did not explore on this issue, it is of great interest at present because it has been described as a period of risk of morbidity and mortality [2-4].

The post-COVID phase, which brings on post-COVID-19 syndrome, is defined as the persistence or de novo appearance of symptoms after the 4th week of onset of COVID-19 symptoms, which can last up to 3 months or more [5]. Evidence has shown that during this period, and depending on the presence of comorbidities

or the phenotype developed during the acute phase of COVID-19, complications secondary to the target organ lesion may occur, which may compromise the functional capacity or life of the individual [2-5]. Within the little that is published to date, this syndrome manifests itself almost entirely through paroxysmal tachycardia, dyspnea, fatigue, neuropsychiatric disorders such as anxiety, fear or depression, which affect the development of the activities of daily living of people [2-6]. One of the most researched and most dangerous phenotypes of post-COVID-19 syndrome is post-COVID-19 neurological syndrome, which can manifest itself through cerebrovascular, neuroimmune or neuroinflammatory disorders [2-4]. But what about children? Very little has been published on the existence or presentation of this condition specifically in children [7-10].

Garcia, et al. [11] conducted a series of clinical cases in pediatric patients who presented neurological complications during the acute phase of COVID-19, with manifestation of status convulsus during the post-COVID phase. Among the complications presented were encephalitis, meningoencephalitis, and cerebrovascular disorders, severe conditions that impact on the



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neurological integrity and functional capacity of the child [11]. This is one of the few examples reported today, but it represents a challenge for the fields of pediatrics, neurology, and neurorehabilitation. The CLoCk study [8], is an ongoing study that aims to determine physical and emotional involvement during the post-COVID 19 phase, and to validate the current definition of post-COVID syndrome [8]. Other case reports have described that many children may debut with myocarditis, P-ANCA vasculitis, multisystem inflammatory syndrome or general nonspecific symptoms, such as tiredness, choking sensation or lack of appetite [7-12]. Therefore, it can be said that there are no specific signs or symptoms to recognize this syndrome in children. One of the points to highlight on this topic is the lack of evidence and the need to propose studies that help to describe the behavior of this syndrome among different populations.

Bearing in mind that children and adolescents are in an active phase of growth and development, any disorder affecting this process, especially at the neurological level, can considerably reduce their functional capacity and adversely affect their short-, medium- and long-term prognosis. In this order of ideas, it is necessary to propose strategies such as the creation of centers or programs specialized in the screening of warning symptoms and strict follow-up in this population, with the objective of early diagnosis, timely treatment and the establishment of rehabilitation plans when necessary. If this situation does not occur and goes unnoticed, an increase in the global burden of disease may occur in the near future.

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