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Post-Covid Effects: A Mini Review

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Mini Review

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Abstract

This brief review tries to explore the most important effects of post-COVID, also known as Long COVID, a persistent presentation of the original disease caused by SARS-CoV-2. The virus has been shown to affect systems that are not necessarily associated with the primary disease, such as the central nervous system, which may be vulnerable in the short and long term and can damage the quality of life of our patients. The consequences of COVID-19 can be observed in both physical and mental health, and these must be attended by primary care physicians, or be referred to the appropriate specialist. The most frequent symptoms usually involve fatigue or neurological symptoms, and these could be the cause of recurring visits to the doctor higher health spending. It is crucial that we count with standardized guidelines for the treatment of these symptoms, as well as risk assessment tools for predicting which patients have the most risk factors for developing Long COVID.

Keywords: Long-COVID; COVID-19; Effects; Neuropathy; Respiratory

Introduction

The Long-COVID syndrome has been described by many researchers since its first appearance in the middle stages of the pandemic. These patients have suffered from a variety of symptoms, ranging from physical (respiratory or cardiovascular) to even neuropsychiatric maladies, such as persisting neuropathy or depression [1]. The long-term impact of the pandemic may be far more reaching than it was first expected. It appears that this condition may be of importance in the near future, as the number of COVID patients grows every day. We should be wary of the long-term effects of the disease as general practitioners, in order to treat these symptoms correctly or make a timely referral to the appropriate specialist.

Body of Paper

The definition of Long COVID is not widely accepted, but there are some suggestions. For example, it may be considered Long COVID if a patient shows signs and symptoms developed during or after covid-19, lasting more than 12 weeks and not explained by other diagnosis [2]. Persistent fatigue is probably the commonest long-lasting symptom of COVID, sometimes even consistent with a Chronic Fatigue Syndrome (CFS) diagnosis. It should be noted the important association of this symptom with other comorbidities, such as obesity, type 2 diabetes, respiratory and cardiovascular disease, and depression, among many others [1]. Studies have shown that fatigue is present in half of the Long COVID patients, which is not surprising, as Post viral fatigues are a common trait of different viral infections [3]. This symptom should be managed by a multidisciplinary group, including psychological support and physical rehabilitation. It is important to rule out different potential causes of fatigue, such as anemia or hypothyroidism as well.

It is well known that COVID-19 can cause severe disease and potential death in people with multiple comorbidities [4]. These conditions may have an impact in the recovery of COVID, especially in the long term. A study by Maniscalco M, et al. [5] demonstrated that although there is greater

response to the rehabilitation cycle in patients without cardiorespiratory comorbidities, the recovery can be attained regardless of the pre-existing disease. Patients with persisting symptoms might need a thorough examination by a multidisciplinary team and should receive rehabilitation therapy. One of the most important symptoms of COVID-19 was olfactory loss. This is speculated to be produced by the SARS-CoV-2 virus impairing the chemosensory function in the olfactory receptors, a mechanism that is not yet understood. These symptoms not only include anosmia, but also are characterized by parosmia or simple hyposmia. In most cases, the recovery of the sense of smell is rapid, but in some cases, there can be a persistent perceptual distortion, primarily characterized by hyposmia [6]. This may be a result of the loss of olfactory epithelium caused by death of neural stem cells, or the disruption of central olfactory processing networks caused by the virus.

The neuropsychiatric consequences of COVID-19 are also of great importance. As it has been shown, SARS-CoV-2 can be present in the cerebrospinal fluid, as the virus has invasive effects in the central nervous system. Some of the most important neuropsychiatric symptoms are headaches, tremors and the so called "brain fog", a very common dysfunction associated with cognitive blunting [3]. But more important in the long term, viral infections in the brain are known to impact in the risk of later dementia in life, so there may be an expectation of increasing neuropsychiatric symptoms in the future as a sequela of COVID-19. These symptoms may present as cognitive decline, motor impairment or even affective and psychotic disorders, as well as an increased risk of stroke and myelin pathology [7].

Inflammatory symptoms have also been described in various systems, associated with Long COVID. These could manifest as rheumatoid-like arthralgias, muscle pains, or even more serious, coagulopathies associated with venous thrombosis or autoreactivity to self-antigens, which could be life-threatening conditions [3]. The post COVID multisystem inflammatory syndrome/post COVID autoimmune syndrome is characterized by fever, gastrointestinal symptoms, rash, chest pain and palpitations. It is important to remember that COVID-19 can be monitored by inflammatory markers, which are predictors of severity and prognosis [8]. In a recent study from Sudre CH, et al. [9] analysing possible predictors for Long COVID, they discovered that Long COVID was significantly associated with age, scaling up to 21.9% in people aged ≥70 years, and was also more present in females than males. The only pre-existing condition associated with Long COVID was asthma, and the risk was equal to all socioeconomic groups. Fatigue and headaches were the most frequent symptoms.

The long COVID symptoms may impose a burden on the patient's lifestyle, as these complications receive little attention by the health care providers. These patients may experience functional disability, psychological problems and a decrease in quality of life in general caused by the persistence of symptoms [10]. COVID-19 has been linked with a decline not only on physical activities but also on leisure, social and educational activities [11]. Neuropathic pain is a threatening symptom to a patient's quality of life and mental health, as it has been repeatedly linked to depression and other mental health problems [12], making it one of the most concerning post COVID symptoms [13].

Conclusion

Post-COVID syndrome is a very important condition as it can lead the patient to a very bad short- and long-term health situation. Post-COVID syndrome has been associated with significant neurological sequelae, which in advanced stages of life could cause a higher risk of cerebrovascular disease or dementia. The management of these patients must be informed and under the rigorous work of a multidisciplinary group.

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