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LETTER TO THE EDITOR

SARS-CoV-2, a new causative agent of Guillain-Barré syndrome?☆

SARS-CoV-2, ¿nuevo agente causal del síndrome de Guillain-Barré?

Dear Editor:

Last June, and article[1] was published in the online digital version of this journal regarding the possible association between SARS-CoV-2 and Guillain-Barré syndrome (GBS). Through this letter we wish to reinforce the reality this binomial by conducting a bibliographic search of the cases published to this date.

Back in 1977, Peter Brian Medawar, an all-time greatest immunologists and Nobel Prize winner in Physiology said that a virus ''is piece of bad news wrapped up in protein''. Although these words cannot be considered proper medical terminology *per se*, they do anticipate the catastrophic consequences of the person-to-person transmission of SARS-CoV-2 we have seen across the world.

The beta-coronavirus SARS-CoV-2 has the focus of attention of scientific publications over the last few months. However, we still do not know much about the underlying pathophysiological mechanism, virulence, and management of the infection caused by this virus.

In January 2020, China offered a new hypothesis to the international scientific community: GBS associated with SARS-CoV-2, ¿chance or coincidence?[2]

Six months have gone by since then. In a total of 14 countries (China, Switzerland, Spain, Morocco, Italy, France, Iran, Austria, Canada, The Netherlands, United States, Germany, Turkey, and United Kingdom) 39 clinical cases have been reportedly associated the virus with the syndrome, according to our bibliographic search (Annex 1 and 2, electronic supplementary data). Most cases reported are mild respiratory and abdominal symptoms prior to the appearance of neurological disorders in the SARS-CoV-2 infection setting. A total of 49% of the patients are > 60, and predominantly men (69%) as it has already been described in other series.[3] The most prevalent clinical presentation has been acute inflammatory demyelinating polyradiculopathy (27 cases) followed by acute motor and sensory axonal neuropathy (4 cases). A total of 33% of the patients required respiratory support. The albuminocytologic dissociation, an important step to achieve the diagnosis,[4] was confirmed in 21 patients while in 7 no lumbar puncture was performed. A total of 87% of the patients were treated with immunoglobulins and 10% with plasmapheresis. To this date, based on the data reported in the articles reviewed, 2 patients have died (5%), both of acute respiratory failure.

The medical literature searched and analyzed during this review is consistent with the existence of an etiological link between SARS-CoV-2 and GBS. Considering the high number of patients infected with this virus we conclude that the cases of post-infectious polyradiculopathies will exceed the annual incidence rate that is estimated in 0.6–4 cases/for every 100,000 inhabitants/per year.[5] We will have to wait to see the response to therapy, the neurological sequelae occurred, and the lethality due to SARS-CoV-2-induced GBS.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.medine.2021.11.014.

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Indication of high-flow oxygen therapy in patients with SARS-CoV-2 pneumonia☆

Indicación de la oxigenoterapia de alto flujo en pacientes afectos de neumonía por SARS-CoV-2

To the Editor,

The SARS-CoV-2 pandemic, and the corresponding hypoxemic acute respiratory failure (ARF) sustained by a high percentage of hospitalized patients have changed the recommendations established on the management of respiratory therapy.[1] High-flow oxygen therapy (HFOT) has been widely used as supplemental respiratory support therapy because it is easy to use, tolerate, and quickly improves both the clinical and gasometric situation of the patient.

Recommendations suggest the use of HFOT as a first-line therapy of non-invasive respiratory support even before non-invasive ventilation (NIV).[1] Such recommendation is based on the results of a French multicenter study that compared oxygen therapy, HFOT, and NIV.[2] Results showed a clear benefit towards HFOT vs NIV and oxygen therapy by reducing the 28-day rate of intubation, and the 90-day mortality rate at the intensive care unit (ICU) setting. In the methodology of NIV, there is a series of aspects that may have favored HFOT vs NIV: first, the interruption of NIV was established (8 hours [4-12] during the first day, and 8 hours [4-13] during the second) alternating with periods on HFOT. The transient weaning from NIV can lead to the alveolar derecruitment obtained with NIV, and consequently to the early stage of the disease, which is why several authors recommend keeping it going non-stop from the beginning.[3] Secondly, the levels of PEEP used were 5 ± 1 cmH_2O that are somehow lower to those that have proven capable of improving oxygenation (10 cmH_2O).[3]

Yet despite these satisfactory results,[2] and the recommendation established,[1] the series published in the ICU setting of hypoxemic patients due to SARS-CoV-2 show a high rate of use (> 60%) followed by high rates of failure (85%).[4] Probably the use of HFOT during the early stages of the respiratory process (especially at the hospitalization ward) is highly recommended. However, in patients who progress into acute respiratory distress syndrome (ARDS), and who require ICU admission and high PEEP levels, HFOT does not seem to be effective. In our series, HFOT was used to support weaning from NIV and only after stabilizing the patient, not as the early therapy (except in one case) since most patients came from the hospitalization ward and had already been treated with NIV or HFOT, which is why NIV in mode of continuous positive airway pressure (CPAP) therapy was used.[5]

After studying the recommendation of use of HFOT we believe that *a)* the study that supported it has some deficiencies, which means that in the current clinical practice, its wide use has translated into a high rate of failure; *b)* the role of HFOT in the early stages of hypoxemia would be advisable (especially outside the ICU setting); however, beyond these early stages, its utility vs NIV has not been studied, which is why maybe a clinical trial that compared HFOT to NIV based on the aforementioned criteria would be necessary, and, finally, *c)* HFOT could play an essential role supporting the process of weaning from NIV.

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