LETTER

The challenges of monitoring neurological manifestations associated with COVID-19 in Latin America: does the World Health Organization need changes?

Os desafios do monitoramento das manifestações neurológicas associadas à COVID-19 na América Latina: a Organização Mundial de Saúde precisa mudar?

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Dear Editors,

We read with great interest the review by Munhoz et al. about neurological complications in patients with severe acute respiratory symdrome coronavirus 2 (SARS-CoV-2) infection[1]. The review focused, due to the spread of the pandemic, on laboratory-confirmed cases, many critically ill, from China, Europe, and North America. We appreciate the effort of the authors to systematically combine data from different records to draw a clearer pattern for neurological syndromes. Nonetheless, as the authors have pointed out, further studies are needed. There are, indeed, many challenges, and a major issue stands out in our minds: can Latin America contribute scientifically to better define these manifestations?

The coronavirus disease 2019 (COVID-19) affects Latin American countries in different ways, considering that political, cultural, and socioeconomic heterogeneity determines distinct local responses to the pandemic. While wealthy countries perform more than 70,000 tests per million inhabitants, Brazil is performing around 7,000 per million with a positivity rate of 36%, which is the highest among the leading countries in number of cases. This indicates that we are not testing it widely[2]. Therefore, considering the scarcity of testing, we must think in a practical and realistic way to enhance the diagnosis of COVID-19 and, consequently, raise awareness for important clinical and research topics, such as neurological complications.

Every person presenting a suspicious clinical picture for COVID-19 should be tested. Although extensive testing has been repeatedly associated with successful strategies in some countries, this is not a reality in resource-limited settings. The rapidly escalating number of cases can quickly overwhelm the healthcare system capacity in low- and middle-income countries, leading to a subset of suspect cases being submitted to testing, which is usually those who are critically ill. The World Health Organization (WHO) case definition relies heavily on respiratory symptoms and laboratory confirmation, resulting in a biased approach to testing. Only patients presenting fever and at least one sign/symptom of respiratory disease, who travelled to or live in a region reporting community transmission or who had contact with a confirmed or probable COVID-19 case during the 14 days prior to the symptom onset are considered suspect[3].

In view of the evolving knowledge on the clinical symptoms of COVID-19, this definition may be expanded to sudden anosmia or ageusia, which have been systematically reported and can occur in more than 85% of the patients, sometimes with a mild presentation that rarely needs hospitalization[4]. Abdominal pain, nausea, vomiting, and diarrhea have also been

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frequently reported. Cases that are frequent, but not deemed 'typical' by the WHO case definition, may not have access to laboratory confirmation and may be underreported in Brazil and other low- and middle-income countries. Furthermore, in the absence of confirmation through laboratory tests, a systematic approach through chest computed tomography (CT) scan, such as CO-RADS, could provide important information and have good correlation with reverse transcriptase-polymerase chain reaction (RT-PCR) assays[5]. Although chest CT has a higher cost, it is promptly available in many emergency departments and provides faster results than molecular assays, which is essential to guide clinical decisions in the acute phase. Thus, considering individuals that were in contact with COVID-19 cases or live in a region with sustained community transmission, we propose the case definition in Table 1.

We hope this proposed definition improves COVID-19 surveillance in resource-limited settings, such as Latin America, aiding healthcare professionals to quickly identify suspect and probable cases and readily adopt the proper measures to stop transmission. Besides facilitating precocious and assertive management, a broad clinical-radiological pattern may favor a more systematic data collection even in the absence of confirmatory assays, guiding the scientific community through several open questions on this matter.

Table 1. Proposed case definition.

Suspect case	Combination of at least two of the six symptoms: • fever and/or shivering; • dry cough; • myalgia/fatigue/asthenia; • diarrhea and/or abdominal pain; • sore throat; • sudden anosmia and/or ageusia.
Probable case	At least one of the six symptoms listed as suspicious added to at least one of the three following situations: • respiratory dysfunction defined by dyspnea and/or confirmed hypoxemia by oximetry or acute respiratory distress syndrome (ARDS) requiring hospitalization; • typical chest computed tomography image, with the following characteristics: multiple ground-glass opacities, multifocal patchy consolidation and/or peri-bronchovascular changes with peripheral distribution, predominating in the lower fields, some with a rounded shape, compatible with the inflammatory/infectious process; • direct physical contact with a person with confirmed COVID-19 OR healthcare professionals known to be exposed to COVID-19 cases.
Confirmed case	Reverse transcriptase-polymerase chain reaction confirmation irrespective of clinical signs and symptoms OR positive serology (IgA, IgG, IgM) considering any previous symptoms.

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