LETTERS TO THE EDITOR

Synergism between dengue and COVID-19: evidence or occasional?

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Abstract:

The global spread of the new coronavirus has brought to light several discussions regarding infectious agents and ways of transmission of viral diseases. In South America, cases of misdiagnosis between COVID-19 and dengue have been reported. This letter aimed to expose the main symptoms that confuse health professionals for the diagnosis of the acute phases of these diseases. Due to the presence of synergistic symptoms between COVID-19 and dengue in their acute phase, we sought to report marked differences between both infectious agents, based in studies published in the literature. Considering the double pandemic of COVID-19 and dengue and its impact either in the basic sanitation and the public health system, the development of an effective rapid virus tests is mandatory and useful to guide the adequate treatment of the patient. Health professionals should be alert for the synergistic symptoms of these infectious diseases. Further studies and development of more accessible and effective rapid tests are encouraged for COVID-19 and dengue.

Keywords: SARS-CoV-2, Dengue virus, Diagnosis, Signs and symptoms

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Dear Editor,

Severe acute respiratory syndrome caused by the new coronavirus (SARS-CoV-2) swept every continent in 2020 and 2021 and infected more than 115 million people. Of that number, 51 million cases have been reported in the Americas, host countries of the dengue virus. Dengue is an infectious disease typical of tropical and subtropical regions, transmitted by an arbovirus that causes periodic outbreaks and infects approximately 390 million people a year worldwide[1].

In Latin America and some Asian countries, a significant increase in outbreaks and simultaneous infections by COVID-19 and dengue has been reported[1]. This condition has caused concern among the population and health professionals, as well as a worrying increase in the demand for health services, since both diseases present nonspecific signs and symptoms in their early and acute phases, including fever, myalgia and headache, making its diagnosis difficult[2]. Another important similarity to be noticed between COVID-19 and dengue is the propensity to develop the severe form of the disease, especially among the elderly population[1]. Especially in the state of Amazonas (Brazil), a dengue endemic region and place of origin of the P.1 variant of the new coronavirus, there was a high prevalence of severe forms of COVID-19[1].

The great current scientific questioning aims to investigate the cases of individuals with a history of dengue who had the symptoms of COVID-19 accentuated[3]. Although dengue and COVID-19 viruses do not share the same family, there are reports of dengue antibodies reactive to SARS-CoV-2[3]. One study revealed false-positive results for COVID-19 in patients with dengue and false-positive results for dengue in patients with COVID-19, favoring the hypothesis of cross-reactivity[4]. Although the C-Reactive Protein (CRP) test is the confirmatory method for both pathologies, rapid tests are extremely useful for diagnosis and tracking of these diseases, and the accuracy of the results varies according to the period of progression of the infection[5].

Future studies are needed to affirm the causal association between worse prognosis of patients infected with SARS-CoV-2 preceded by dengue conditions. In addition, in view of the current health crisis in Brazil and the alarming overload of the health system, it is extremely important to develop a quick and accessible test capable of differentiating symptoms of COVID-19 and dengue in an effective and early manner, enabling a reliable diagnosis. Therefore, these measures may favor the tracking of these diseases as well as the referral of the patients for an appropriate treatment.

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