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Idiopathic intracranial hypertension and COVID 19

Hipertensión intracraneal idiopática y COVID 19

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Dear Editor:

The pathogenesis of idiopathic intracranial hypertension (IIH) involves hormonal, immune, metabolic, and vascular factors¹⁻⁴. This uncommon entity often affects young women with weight excess, and causes headache, visual and stability or cognitive changes, anxiety and depression; and can follow COVID-19 infection or vaccines¹⁻⁴. Besides IIH, the SARS-CoV-2 virus is associated with cerebrovascular stroke, conscience impairment, papillophlebitis, optic neuritis, and diverse other cranial neuropathies¹⁻⁴. Worthy of note are also the neuro-ophthalmic complications after COVID-19 vaccines, as the examples of arterial or venous brain thrombosis, intracerebral bleedings, bilateral anterior ischemic optic neuropathy, and post-vaccination cranial neuropathy². Accurate neurological exam, magnetic resonance imaging of the brain, evaluation of the cerebrospinal fluid pressure and the laboratory determinations are the mandatory tools.

I recently read the case study published in this Journal by Therán León JS, et al. about a woman at her 26 years with SARS-CoV-2 infection and IIH, who presented headache, visual impairment, and papilledema, which were successfully managed⁴. The magnetic resonance imaging (MRI) of skull was normal and the lumbar puncture revealed an unremarkable cerebrospinal fluid, but the pressure was high (40 cm H₂O); her symptoms relieved with lumbar puncture and acetazolamide 500 mg 2 times daily⁴. The authors commented on the SARS-CoV-2 blockage of lymphatic vessels, increasing the resistance to CSF outflow and causing IIH, and the capillary endothelial cells expressing the ACE2 receptor of the virus, which could favor its neuroinvasive nature⁴. In this setting, it seems useful to add some comments on other very recent articles¹⁻³.

Carazo-Barrios L, et al. evaluated the courses of headache, anxiety and depression among 112 patients with IIH during the COVID-19 pandemic (92% women) with an average age of $36,6 \pm 9,2$ years, a mean time since the diagnosis of $6,25 \pm 5,66$ years, and detected a significant worsening of the anxiety and depression due to the confinement¹. Regarding to the treatment of IIH, an increase was observed from a scale of no treatment to oral medication or to surgical procedure in 12,5% of cases during the confinement; and the authors suggested studies about medium and long-term impact on cases of IIH¹. Feizi M, et al. reviewed neuro-ophthalmic disorders related to COVID-19 infection and vaccination, which may occur in up to 30% of the cases, mainly with severe infection². The changes included acute disseminated encephalomyelitis, ageusia, anosmia, altered conscience, cerebral venous thrombosis, myelin oligodendrocyte glycoprotein-associated disease, neuromyelitis optica, posterior reversible encephalopathy, besides the strokes². The mechanism involves cytokine storm, delayed autoantibody genesis, direct invasion, endothelial dysfunction, hypercoagulation, hypoxia, and lower immune tolerance². Thakur S, et al. reported a 49-year-old woman who received a unique dose of the vaccine approximately four months before, and presented with intracranial hypertension causing blurred vision; and due to the positivity of her SARS-CoV-2 Rapid Antigen test, she was admitted in the isolation ward and further underwent an endoscopic optic surgery³. As persistent headaches in COVID 19 may herald an IIH, which is an unusual complication, the authors highlighted the role of an early diagnosis and prompt treatment of these cases since the primary care, aiming to avoid an evolution of irreversible visual damage³.

The author strongly believes that the herein included commentaries might enhance the interest and awareness of the readers about the hypothesis of central nervous system disorder related to the COVID-19 infection or vaccination, favoring the early diagnosis.

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