Anosmia in Case of COVID-19 Patients: Dilemmas Faced in Neurotrauma Care

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The new coronavirus (COVID-19/SARS-CoV-2) and the associated pandemic is continuously presenting new challenges, and with a growing body of evidence, multiple clinical settings have been created for the neurosurgeons.¹ Inflammation and demyelination are two pathobiological mechanisms resulting from the entry of the SARS-CoV-2 into the central nervous system (CNS).²³ Although cranial nerve involvement was not mentioned in the first reports, in the weeks after the pandemic, it was clinically characterized that patients with COVID-19 can develop anosmia.⁴⁵ This demonstrates the neuroinvasive potential of this unusual pathogen.⁶

Studies suggest that approximately 25 to 30% of patients with severe cranial neurotrauma develop anosmia.⁷ The etiologic mechanism of posttraumatic anosmia is a determining factor in recovery.⁸ The presence of anosmia in patients with traumatic brain injury (TBI) and concomitant history of COVID-19/SARS-CoV-2 can present a diagnostic challenge. It becomes more challenging as many pathologies, that is, inflammatory, neurodegenerative pathologies, medications, and viral infections can also cause anosmia.⁹ Multiple reports mentioned recovery in the first weeks after the onset of symptoms.⁸¹⁰ It has been well-established that different types of Coronavirus produce post-infection anosmia in humans.¹¹ It is important to remember that the anosmia associated with SARS-CoV-2 is transient and shall recover during the recovery phase.¹² During the clinical assessment of TBI patients, we must be alert to the possibility that the patients with anosmia in the background of history of trauma may be contaminated with SARS-CoV-2. History and further evaluation should include a high-index of suspicion. In addition, we suggest there is a need to document in order to characterize the structural injuries as well as share the global experience, thereby understanding the clinical and imaging characteristics associated with SARS-CoV-2 infection in the background of history of TBI.

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