



2. ANOSMIA – A NEUROLOGICAL COMPLICATION IN COVID-19.

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Introduction. Anosmia is a partial or complete loss of smell. It has gained great attention during COVID-19 pandemic, as many infected individuals have reported distorted sense of smell. Anosmia is a condition that can result from various causes, including viral infections, head injuries, or other neurological disorders.

Aim of study. A New strain of coronavirus - SARS-CoV-2 emerged in 2019 and led to a global pandemic of respiratory infection named COVID-19. It demonstrated some unique features including rapid transmission of a wide range of respiratory and neurological symptoms. Among these, anosmia, commonly accompanied by dysgeusia, emerged as one of the most common neurological symptoms, sometimes even presenting as the only symptom and significantly impacting the quality of patients' life.

Methods and materials. Systematic literature review of the latest published articles was conducted using platforms such as PubMed, Google Scholar and Cochrane focusing on olfactory and taste dysfunction induced by SARS-CoV-2 using the keywords SARS-CoV-2, COVID-19, anosmia, dysgeusia, TMPRSS2, ACE2. Possible pathophysiologic mechanisms, symptomatology, and treatment were analyzed and summarized

Results. The most supported theory for pathogenesis of anosmia is viral infection and damage of sustentacular supporting cells and/or inflammatory damage to olfactory mucosa. This leads to disturbed odorant processing and signal transmission. Additionally, comparison of anosmia in other respiratory viruses like influenza, revealed no common pathophysiology with COVID-19 induced anosmia. Although SARS-CoV-2 was found in the CNS, the route of spread and contamination is still under research and possible ways that are suggested are hematogenous spread and direct spread through cribriform plate and olfactory pathways. Most patients recover within 2 weeks. In cases of prolonged anosmia, therapy options include smell training, corticosteroids, and psychological support.

Conclusion. COVID-19 induced smell disorder is likely a result of unique damage to supporting olfactory cells and local inflammation. While most patients recover fully within 2 weeks, there is a need for more research to conclude why patients experience prolonged anosmia and how to treat it.