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Letter to the Editor

Sudden sensorineural hearing loss and COVID-19

(commentary on “Could sudden sensorineural hearing loss be the sole manifestation of COVID-19? An investigation into SARS-COV-2 in the etiology of sudden sensorineural hearing loss” by Osman Kilic, Mahmut Tayyar Kalcioğlu, Yasemin Cag, Ozan Tuysuz, Emel Pektas, Hulya Caskurlu, and Ferihan Cetin)

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To the Editor,

We read with great interest the original and interesting article by Kilic et al. (2020) concerning the possibility that sudden sensorineural hearing loss (SSNHL) could be a non-specific symptom of COVID-19. Although we certainly consider it a challenging study, we would like to comment on some aspects.

In their study, Kilic et al. enrolled five male patients with unilateral SSNHL and evaluated them for SARS-CoV-2 infection using real-time polymerase chain reaction (PCR) testing. They reported that only one participant was positive by real-time PCR testing, and they noted a positive response to COVID-19-specific treatment in this positive patient.

SSNHL has multiple causes, such as vascular, viral and autoimmune causes, and its incidence is increasing yearly. Viral infections are considered one of the most common causes of this disease (Cassandro et al., 2019). High serum levels of antiviral antibodies, such as antibodies to cytomegalovirus, herpes zoster virus, herpes simplex virus type 1, influenza B virus, enterovirus and measles virus, have been isolated from the serum of patients with SSNHL (Kuhn et al., 2011). However, the precise etiopathogenesis of viral infections in SSNHL is still unclear. The main hypothesis on how viral infections could lead to SSNHL is the invasion of the cochlear nerve or of the soft tissues of the cochlea (Chen et al., 2019).

Most SSNHL recovery occurs within the first 2 weeks after onset; even without treatment a significant percentage of patients may experience complete or partial recovery (Cavaliere et al., 2020).

Since February 2020, the COVID-19 pandemic has severely affected the capacity of the health care systems of most countries,

even the best-organized ones (De Luca et al., 2020a,2020b). Because of the high number of people affected and the relationship with viral infection, we should expect an increase in diagnoses of SSNHL.

In a search of the scientific literature, even in the largest analyses of hospitalized COVID-19 patients, SSNHL is not mentioned as a possible consequence of SARS-CoV-2 infection.

Recently, Mustafa (2020) evaluated asymptomatic COVID-19 PCR-positive patients with transit evoked otoacoustic emissions (TEOAEs) and pure-tone audiometry; Mustafa reported that TEOAE amplitudes and the high-frequency pure-tone thresholds were significantly worse in the patients tested.

Given the lack of large case series, we may consider the possibility that the relationship between SSNHL and COVID-19 as reported by Kilic et al. could be coincidental.

In conclusion, the statement by Kilic et al. that “it should be remembered that non-specific symptoms such as SSNHL could be the only sign with which to recognize COVID-19 cases” is very interesting but should be supported by larger case series.

Conflict of interest

The authors declare that they have no competing interests.

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