The Laryngoscope

Letter to the Editor

In reference to *Intranasal Corticosteroid Treatment on Recovery of Long-Term Olfactory Dysfunction Due to COVID-19*

Key Words: anosmia, coronavirus, corticosteroids, COVID-19, maxillofacial surgery, olfactory dysfunction, olfactory function, SARS-CoV-2, smell.

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Dear Editor,

We have read the trial by Hosseinpoor et al.[1] analyzing the efficacy of nasal corticosteroids (NCs) in the treatment of long-lasting COVID-19 related olfactory disorders (OD). Authors concluded that NC may have a positive effect on the recovery process. Given the high social impact of COVID-19-related OD[2–4] and regarding the lack of specific therapies for post-viral OD,[5,6] this topic is particularly important. NCs represent a first-line therapy in the treatment of OD-related to chronic rhinosinusitis.[7] The rationale for their use in COVID-19-related-OD arises from the detection of inflammatory olfactory neuropathy during the acute phase of SARS-CoV-2 infection.[8] However, the anatomical damage in patients with persistent OD is probably more complex and includes a direct cytopathic effect of the virus at the level of sustentacular cells, a downregulation of the expression of olfactory receptors in olfactory sensory neurons, and a disruption of the architecture of the neuroepithelium.[9,10]

Although it may affect the recovery time,[11,12] the early administration of corticosteroids during the acute phase of infection does not appear to have an effect on the long-term overall recovery rate.[13] Some preliminary studies reported promising data in the treatment of persistent OD[14] that have not been supported by larger trials[15–17] and meta-analysis.[18] This is consistent with studies inpost-viral olfactory loss (PVOL) prior to COVID-19,[19,20] probably due to a failure of delivery to the OE.[21]

Hosseinpoor et al. found no significant differences in anosmia, hyposmia, and normosmia rates between the two groups, although treated patients reported a significantly higher increase in olfactory scores. However, these results must be considered with caution because the therapy group had a significantly higher parosmia rate than controls at baseline (40% vs. 14%, $p = 0.03$). Parosmia has been indicated as a favorable prognostic factor for the recovery of OD in PVOL, and this may therefore have influenced the results.[20-23] NCs are generally well tolerated, with a very low risk of significant adverse effects, and when using fluticasone or mometasone there is negligible systemic absorption, although this study suggests that they could accelerate recovery in the acute phases of infection, there is currently insufficient evidence to justify their prescription in patients with persistent OD or to prevent long-term dysfunction. Trials using systems that allow optimal delivery of the NCs at the level of the olfactory neuroepithelium would be highly desirable.

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