

# Two years of COVID-19 – smell is still stealing the spotlight on the rhinology stage

It is hard to believe we are entering our third year of the COVID-19 pandemic; Rhinology was one of the first journals to highlight the association between COVID-19 and loss of smell and taste<sup>(1,2)</sup> and articles on olfactory dysfunction (OD) continue to make up a significant proportion of our submissions. Lee et al. present detailed electron microscopy images showing loss of the normal olfactory epithelial architecture, with the invading SARS-CoV-2 virus clearly pictured. Bhutani et al. studied self-reported loss of smell after COVID-19 infection, finding similar rates in those with and without obesity, which add further 'weight' against a higher prevalence of loss of sense of smell in more severe COVID-19 disease.

While initial reports suggested early recovery, we know that many patients report ongoing OD and effective treatments remain elusive. Vaira et al previously reported on one of the first randomised trials evaluating the effectiveness of interventions in post-COVID 19 OD, demonstrating improved recovery in those receiving a combination of oral and topical corticosteroids<sup>(3)</sup>. In this edition, Hernandez et al. explore the effect of omega-3 on recovery in patients with post-viral OD undertaking olfactory training. Although there was a slightly greater increase in thresholds in the omega-3 arm compared to placebo, notably both groups improved over time and we must encourage our patients to remain optimistic. Baseline differences in duration and aetiology of loss in this study mean that further data is required before strong recommendations can be made and the results may simply reflect that patients were treated earlier in the course of their OD. This raises further questions - as potential treatments emerge, should we be aiming to treat patients with post-viral OD at a very early stage, risking over treatment of those who would otherwise still make a full recovery. Is there an ideal window for treatment, and is there a point beyond which there will be no benefit? A large number of trials are registered on PubMed and results are eagerly awaited – the potential for a rapidly changing evidence base is reflected in the 'live' systematic review being undertaken by Cochrane on the topic, with regular updates expected as new studies

become available<sup>(4)</sup>.

Sadly, a small number of patients will be left with long-standing anosmia, with a case control study finding 7% patients were anosmic at 1 year after infection<sup>(5)</sup>, although it is still too soon to deem this permanent. With over 400 million COVID-19 cases worldwide to date, we must surely see growing interest in the development of olfactory implants. Benkhatar et al. explore the anatomic feasibility of midline olfactory implantation in an interesting cadaveric study. There is ongoing work mapping the olfactory pathways, developing chemical sensors and stimulators, and it will likely be several years before we see any human trials.

There is no doubt that an unexpected silver lining is the growth in awareness of the importance of OD and an increase in research funding into the underlying mechanisms of olfactory loss in both COVID-19 and other conditions. It takes centre stage in many of our other articles in this edition. Takeda et al. study treatment failures on dupilumab; the presence of respiratory epithelial adenomatoid hamartoma coexisting with nasal polyps may account for cases of persistent disease in the olfactory cleft and ongoing olfactory loss. While I'm sure that we all look forward to reading an edition of Rhinology when COVID-19 no longer dominates discussion, for now I'm grateful for the small silver lining and look forward to further advances in the management of OD that will follow.

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## References

1. Hopkins C, Surda P, Kumar N. Presentation of new onset anosmia during the COVID-19 pandemic. *Rhinology* 2020. 58(3): 295-298.
2. Gane SB, Kelly C, Hopkins C. Isolated sudden onset anosmia in COVID-19 infection. A novel syndrome? *Rhinology*, 2020. 58(3):299-301.
3. Vaira LA. et al., Efficacy of corticosteroid therapy in the treatment of long- lasting olfactory disorders in COVID-19 patients. *Rhinology*, 2021. 59(1): 21-25.
4. O'Byrne L, et al., Interventions for the treatment of persistent post-COVID-19 olfactory dysfunction. *Cochrane Database Syst Rev*, 2021. 7: p. CD013876.
5. Boscolo-Rizzo P, et al., High prevalence of long-term olfactory, gustatory, and chemesthesis dysfunction in post-COVID-19 patients: a matched case-control study with one-year follow-up using a comprehensive psychophysical evaluation. *Rhinology*, 2021. 59(6): 517-527.