



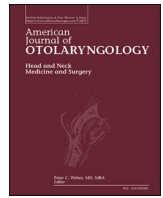
Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Contents lists available at ScienceDirect

American Journal of Otolaryngology–Head and Neck Medicine and Surgery

journal homepage: www.elsevier.com/locate/amjoto

The outcome of fluticasone nasal spray on anosmia and triamcinolone oral paste in taste dysgeusia in COVID-19 patients

We are extremely grateful to Jerome R. Lechien et al. for reviewing our article – “The outcome of fluticasone nasal spray on anosmia and triamcinolone oral paste in dysgeusia in COVID-19 patients”.

In this study we have compared the gustatory and olfactory recovery time in patients receiving triamcinolone oral paste and fluticasone nasal spray versus those who did not receive any intervention for above symptoms [1]. We observed significant Improvement in smell and taste evaluation in triamcinolone and fluticasone group as compared to controls.

In this regard reviewers have raised a few posers which we would like to address. Firstly, question was raised about reliability, sensitivity of the taste and odor tests used in our study stating that it is not quantifiable, standardised method.

To improve the loss of smell associated with other respiratory viruses are nasal steroids, which the British Rhinological Society now recommends as first-line treatment for anosmia in patients with Covid-19 [2]. Steroids are potent anti-inflammatory drugs. When administered topically, as with a nasal spray, steroids act only at the site of application, and thus have very minimal side effects on the body as a whole. Consider topical corticosteroid drops (fluticasone nasule or betamethasone drops) in patients with loss of smell lasting longer than two weeks [3].

We acknowledge the reviewer for this observation, however it is important to note that to conduct this study in a rural hospital in central india, we used resources which are easily procured with easy application. Though many researchers have made use of olfactory testing devices, [4] standardised tests like the UPSIT are cost prohibitive and not available in this region.

Secondly, it was pointed out that the smell and taste identification can be affected by various environmental and psychological factors, and that the use of a placebo spray could've eliminated any sort of evaluation bias [5]. Though this point is valid, we very humbly we like to argue that the subjects who were not provided the medication were unaware of the fact that there is a separate group of patients receiving an interventional drug for the treatment of these symptoms. To impart objectiveness to the response in a population which is intellectually not very competent and its rural background prompted us to evaluate them the way we have done. Hence we do not agree about the chances of bias creeping in the study.

Thirdly, reviewer feels that olfactory cleft evaluation could have been rewarding and efficacious.

According to flow chart to guide the process of initial assessment and management is reproduced from ENT UK. [2] Patients should be encouraged to continue first line measures such as topical corticosteroid sprays or olfactory training in our study. As MRI (magnetic resonance imaging) or DNE (diagnostic nasal endoscopy) was not done in our patients due to loss of smell associated with persistent gustatory dysfunction of less than 6 weeks duration also high infectivity rate with mild to moderate symptoms of patients on one hand and lack of funds on the other [6,7].

Lastly they have questioned the cost-effectiveness of the use of nasal spray where on the other hand there have been cases where the anosmia was treated within 2 weeks, without any intervention. Here we did like to refer to the fact that globally, in numerous systematic reviews and meta-analysis it has been demonstrated that anosmia and dysgeusia persisted even after 2 negative covid swabs; i.e. even after 4–6 weeks of nasopharyngeal swab negativity [8,9]. In light of such an occurrence, it is necessary to treat these symptoms which might hamper the quality of life of the patient.

We are extremely grateful to the editor and the reviewer for the constructive criticism and valuable advice. We are sure it will make us more wise and help improving the quality of our research.

Thank you.

Dr. Chandra Veer Singh.

References

- [1] Singh CV, Jain S, Parveen S. The outcome of fluticasone nasal spray on anosmia and triamcinolone oral paste in dysgeusia in COVID-19 patients. *Am J Otolaryngol* 2021 May–June;42(3):102892. <https://doi.org/10.1016/j.amjoto.2020.102892>.
- [2] <https://www.entuk.org/advicepatients-new-onset-anosmia-during-covid-19-pandemic>. ENT UK. Guideline for management of covid-19 anosmia. 2020. <https://www.entuk.org/advicepatients-new-onset-anosmia-during-covid-19-pandemic>; 2020 [Accessed 25th Mar 2020].
- [3] Walker A, Pottinger G, Scott A, Hopkins C. Anosmia and loss of smell in the era of covid-19. *BMJ* 2020;370:m2808. <https://doi.org/10.1136/bmj.m2808>.
- [4] Gandhi P, Bafna R, Arabale G, et al. Olfactory device for large scale pre-screening for COVID-19. *Trans Indian Natl Acad Eng* 2020;5:237–40. <https://doi.org/10.1007/s41403-020-00126-6>.
- [5] Seden N, Yigit E, Yigit Ö, Kaygısız İ. Objective evaluation of odor loss in COVID-19 and other suspected cases. *Am J Otolaryngol* 2021;42(1):102761. <https://doi.org/10.1016/j.amjoto.2020.102761>.
- [6] Doty RL. Olfactory dysfunction and its measurement in the clinic and workplace. *Int Arch Occup Environ Health* 2006 Apr;79(4):268–82. <https://doi.org/10.1007/s00420-005-0055-6>. Epub 2006 Jan 21, 16429305.
- [7] Poletti SC, Murta G, Hähner A, Hummel T. Olfactory cleft evaluation: a predictor for olfactory function in smell-impaired patients? *Eur Arch Otorhinolaryngol* 2018 May; 275(5):1129–37. <https://doi.org/10.1007/s00405-018-4913-8>. Epub 2018 Feb 27, 29488006.
- [8] Paderno Alberto, Mattavelli Davide, Piazza Cesare. Long-term olfactory and gustatory dysfunction may be related to neural damage. First Published February 9. 2021. <https://doi.org/10.1177/0194599821994845>.
- [9] Paderno A, Mattavelli D, Rampinelli V, et al. Olfactory and gustatory outcomes in COVID-19: a prospective evaluation in nonhospitalized subjects. *Otolaryngol Head Neck Surg* 2020;163:1144–9 [Google Scholar|SAGE Journals|ISI].

Chandra Veer Singh^{*}, Shraddha Jain, Sana Parveen, Prasad Deshmukh
Department of Otorhinolaryngology, J.N. Medical College, Datta Meghe
Institute of Medical Sciences, Sawangi Meghe, Wardha 442004, India

^{*} Corresponding author.

E-mail address: cheer7us@hotmail.com (C.V. Singh).

<https://doi.org/10.1016/j.amjoto.2021.103009>

Received 6 March 2021

Available online 5 April 2021

0196-0709/© 2021 Elsevier Inc. All rights reserved.