Clinical Trial Laryngoscope. 2002 Nov;112(11):2076-80.
doi: 10.1097/00005537-200211000-00031.

Lipoic acid in the treatment of smell dysfunction following viral infection of the upper respiratory tract

Thomas Hummel [1], Stefan Heilmann, Karl-Bernd Hüttenbriuk

Affiliations expand

PMID: 12439184 DOI: 10.1097/00005537-200211000-00031

Abstract

Objectives/hypothesis: The study aimed to investigate the potential therapeutic effects of alpha-lipoic acid in olfactory loss following infections of the upper respiratory tract. Possible mechanisms of actions include the release of nerve growth factor and antioxidative effects, both of which may be helpful in the regeneration of olfactory receptor neurons.

Study design: Unblinded, prospective clinical trial.

Methods: A total of 23 patients participated (13 women, 10 men; mean age 57 y, age range 22-79 y; mean duration of olfactory loss, 14 mo; range, 4 to 33 mo); 19 of them were hyposmic and 4 had functional anosmia. Alpha-lipoic acid was used orally at a dose of 600 mg/day; it was prescribed for an average period of 4.5 months. Olfactory function was assessed using olfactory tests for phenyl ethyl alcohol odor threshold, odor discrimination, and odor identification.

Results: Seven patients (30%) showed no change in olfactory function. Two patients (9%) exhibited a moderate decrease in olfactory function; in contrast, six patients (26%) showed moderate and eight patients (35%) remarkable increase in olfactory function. Two of the 4 patients with functional anosmia

reached hyposmia; 5 of 19 hyposmic patients became normosmic. Overall, this resulted in a significant improvement in olfactory function following treatment (P =.002). At the end of treatment parosmias were less frequent (22%) than at the beginning of therapy (48%). Interestingly, recovery of olfactory function appeared to be more pronounced in younger patients than in patients above the age of 60 years (P =.018).

Conclusions: The results indicate that alpha-lipoic acid may be helpful in patients with olfactory loss after upper respiratory tract infection. However, to judge the true potential of this treatment, the outcome of double-blind, placebo-controlled studies in large groups of patients must be awaited, especially when considering the relatively high rate of spontaneous recovery in olfactory loss after upper respiratory tract infection.

Similar articles

Presence of olfactory event-related potentials predicts recovery in patients with olfactory loss following upper respiratory tract infection.

Rombaux P, Huart C, Collet S, Eloy P, Negoias S, Hummel T.

Laryngoscope. 2010 Oct;120(10):2115-8. doi: 10.1002/lary.21109.

PMID: 20824790

[Therapy of olfactory loss].

Hummel T.

Laryngorhinootologie. 2003 Aug;82(8):552-4. doi: 10.1055/s-2003-41238.

PMID: 12915985 German.

[Effects of systemic or topical administration of corticosteroids and vitamin B in patients with olfactory loss].

Heilmann S, Just T, Göktas O, Hauswald B, Hüttenbrink KB, Hummel T.

Laryngorhinootologie. 2004 Nov;83(11):729-34. doi: 10.1055/s-2004-825676.

PMID: 15538662 Clinical Trial. German.

Postviral olfactory loss.

Seiden AM.

Otolaryngol Clin North Am. 2004 Dec;37(6):1159-66. doi: 10.1016/j.otc.2004.06.007.

PMID: 15563908 Review.

An updated review of clinical olfaction.

Holbrook EH, Leopold DA.

Curr Opin Otolaryngol Head Neck Surg. 2006 Feb;14(1):23-8. doi: 10.1097/01.moo.0000193174.77321.39.

PMID: 16467634 Review.

See all similar articles

Cited by

Multi-channel portable odor delivery device for self-administered and rapid smell testing.

Hopper R, Popa D, Maggioni E, Patel D, Obrist M, Landis BN, Hsieh JW, Udrea F.

Commun Eng. 2024 Oct 11;3(1):141. doi: 10.1038/s44172-024-00286-1.

PMID: 39394479 **Free PMC article.**

Parosmia in patients with post-infectious olfactory dysfunction in the era of COVID-19-associated olfactory impairment.

Gunder N, Hummel T.

HNO. 2024 Sep;72(9):649-656. doi: 10.1007/s00106-024-01470-7. Epub 2024 Jun 27.

PMID: 38935276 **Free PMC article.**

Persistent COVID-19 parosmia and olfactory loss post olfactory training: randomized clinical trial comparing central and peripheral-acting therapeutics.

Cantone E, D'Ascanio L, De Luca P, Roccamatisi D, La La Mantia I, Brenner MJ, Di Stadio A.

Eur Arch Otorhinolaryngol. 2024 Jul;281(7):3671-3678. doi: 10.1007/s00405-024-08548-6. Epub 2024 Mar 16.

PMID: 38492007 **Free PMC article.** Clinical Trial.

A Comprehensive Review of COVID-19-Related Olfactory Deficiency: Unraveling Associations with Neurocognitive Disorders and Magnetic Resonance Imaging Findings.

Simonini L, Frijia F, Ait Ali L, Foffa I, Vecoli C, De Gori C, De Cori S, Baroni M, Aquaro GD, Maremmani C, Lombardo F.

Diagnostics (Basel). 2024 Feb 7;14(4):359. doi: 10.3390/diagnostics14040359.

PMID: 38396398 **Free PMC article.** Review.

Mechanism and treatment of olfactory dysfunction caused by coronavirus disease 2019.

Hu B, Gong M, Xiang Y, Qu S, Zhu H, Ye D.

J Transl Med. 2023 Nov 17;21(1):829. doi: 10.1186/s12967-023-04719-x.

PMID: 37978386 **Free PMC article.** Review.

See all "Cited by" articles