Frontiera ORL
Periodical of Otolaryngology, Cervico-Facial Pathology, Audiology and Speech Therapy
Online first · September 2021
ISSN 2038-4793

COVID-19 anosmia. First results with olfactory rehabilitation (smell therapy)

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Keywords: Covid-19 anosmia, olfactory rehabilitation (smell therapy)

ABSTRACT

Aims of the study. In the treatment of Covid-19 anosmia, compare the results of two therapeutic approaches: one only of a pharmacological type and one with combined therapy: drug + olfactory rehabilitation (smell therapy).

Materials and methods. In the period from March 2020 to April 2021 we enrolled 31 paucisymptomatic subjects, affected by Covid-19 anosmia, for over 60 days. A sample of 15 subjects was treated with only the anti-inflammatory drug therapy (alpha lipoic acid and palmitoylethanolamide) while the second sample of 16 subjects underwent anti-neuro-inflammatory drug therapy associated with olfactory rehabilitation (smell Therapy). The olfactory rehabilitation consisted in inviting the subjects to train their olfactory apparatus by "sniffing" a series of 4 essential oils that emit intense and persistent odors, alternately for 30 seconds, 3 times a day for the duration of 30 days.

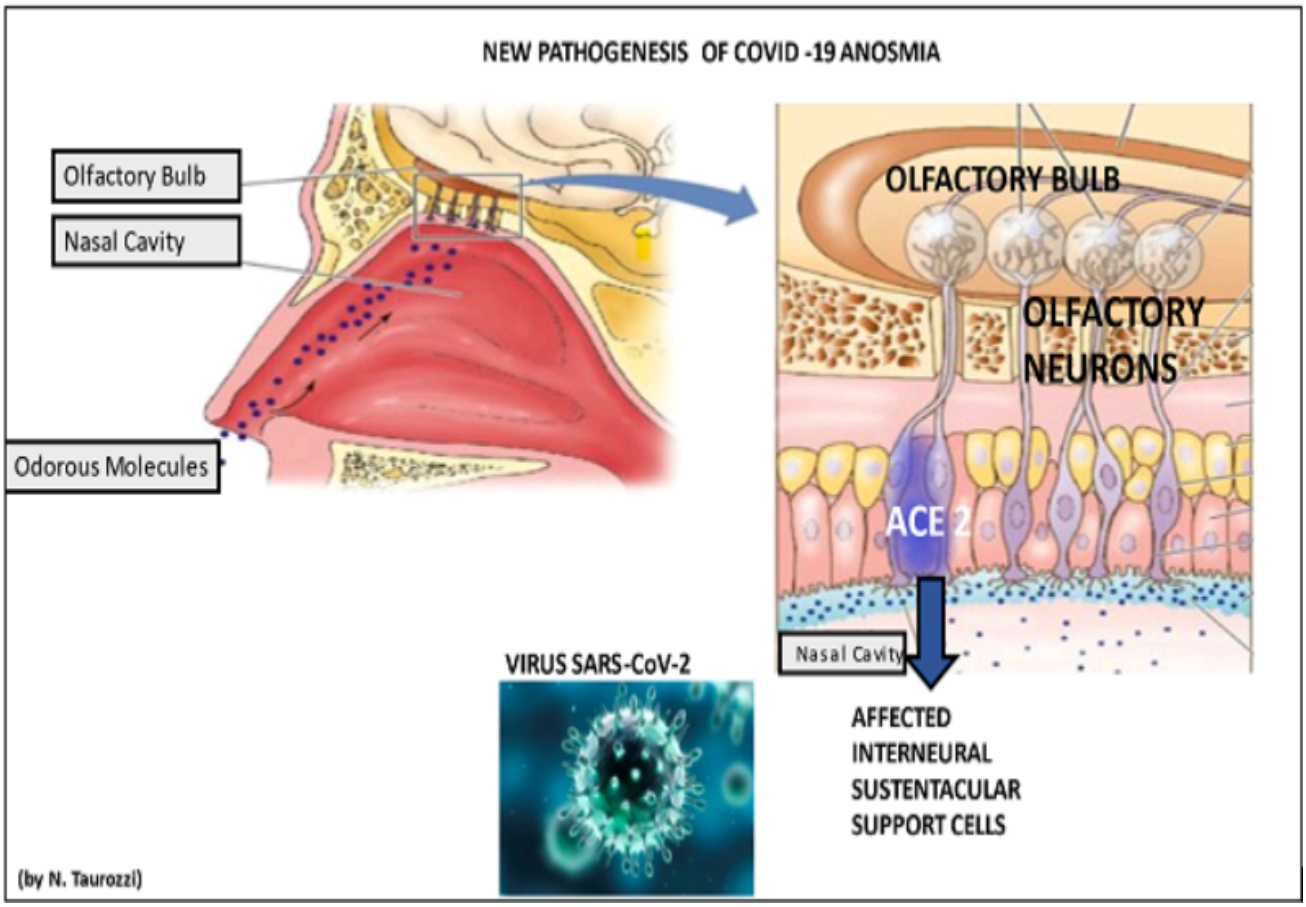
Results. Combined drug therapy and olfactory rehabilitation (smell Therapy) made it possible to achieve cure of Covid-19 anosmia in 87.5% of cases after 30 days of treatment, with an increase in the cure rate of 47.5% compared to to treatment with drug therapy alone.

INTRODUCTION

Comparative clinical studies show that 65% of the persons who contract the SARS-CoV-2 virus are affected by anosmia, frequently associated with ageusia. A recent English study has found that 49% of patients affected by Covid-19 anosmia recover their sense of smell within thirty days, 50% continue to experience the symptom beyond 5-6 months, and 1% do not recover their perception of odors after a year.

Fig. 1

NEW PATHOGENESIS OF COVID-19 ANOSMIA



It has been demonstrated by the neurobiologist Robert Datta of the Harvard Medical School in Boston that the Sars-Cov-2 virus does not directly infect the olfactory neurons (Fig. 1), which are devoid of ACE2 receptors. Rather, it indirectly affects the interneural sustentacular support cells, which instead possess ACE2 receptors, thus depriving the olfactory neurons of 'nourishment' and making them vulnerable. It is a veritable neurological pathology of the olfactory apparatus (nerve fibers and olfactory bulb). This etiopathogenetic mechanism explains the slow recovery from Covid-19 anosmia compared to anosmias that have other viral causes.

PHARMACOLOGICAL APPROACH CURRENTLY IN USE

There is no codified treatment. Cortisone and anti-neuro-inflammatory supplements such as alpha-lipoic acid and palmitoylethanolamide (PEA) are used, but with conflicting results.

AN EXPERIMENTAL COMBINED THERAPEUTIC APPROACH: PHARMACOLOGICAL AND OLFACTORY REHABILITATION (SMELL THERAPY)

Starting from the anosmia onset mechanism due to the neurological pathogenesis of Covid-19, we hypothesized that, like neurological pathologies, also this kind of anosmia could benefit from a combined treatment, pharmacological and rehabilitative, of a specifically olfactory type.

STUDY MATERIAL AND METHOD

Fig. 2

In the period from March 2020 to April 2021 we enlisted a sample of 31 persons affected by Covid-19 paucisymptomatic anosmia, not hospitalized but treated in our hospital's outpatient department,

who had suffered from the olfactory disorder for more than 60 days. The patients were divided into two groups. One sample of 15 subjects was treated with anti-inflammatory drug therapy alone: alpha-lipoic acid 600 mg + palmitoylethanolamide 600mg or ultra-micronized PEA for the duration of 30 days. The second sample of 16 subjects underwent combined therapy – pharmacological anti-inflammatory drug + olfactory rehabilitation (smell terapy) – for the same duration of 30 days. For the olfactory rehabilitation therapy, or smell training, we invited the patients to train their olfactory systems by having them 'smell' (Fig. 2) a series of four essential oils that emit intense odors, such as eucalyptus, mint, camphor and myrrh (obtainable in small bottles from pharmacies or herbalists), alternately for 30 seconds, 3 times a day for 30 days.

Fig. 2
Covid-19 Anosmia
a series of four essential oils for olfactory rehabilitation
(smell therapy)



RESULTS. Of the first sample of 15 patients treated with drug therapy alone (alpha-lipoic acid + ultra-micronized palmitoylethanolamide), 6 were cured of anosmia (40%), 2 improved (13%), and 7 remained stationary (47%), (Fig. 3). Of the second sample of 16 patients treated with a combined therapy (anti-neuro-inflammatory drug + olfactory training), 14 were cured (87.5%), 1 improved (6.25%), and 1 remained stationary (6.25%), (Fig. 4).

Fig. 3

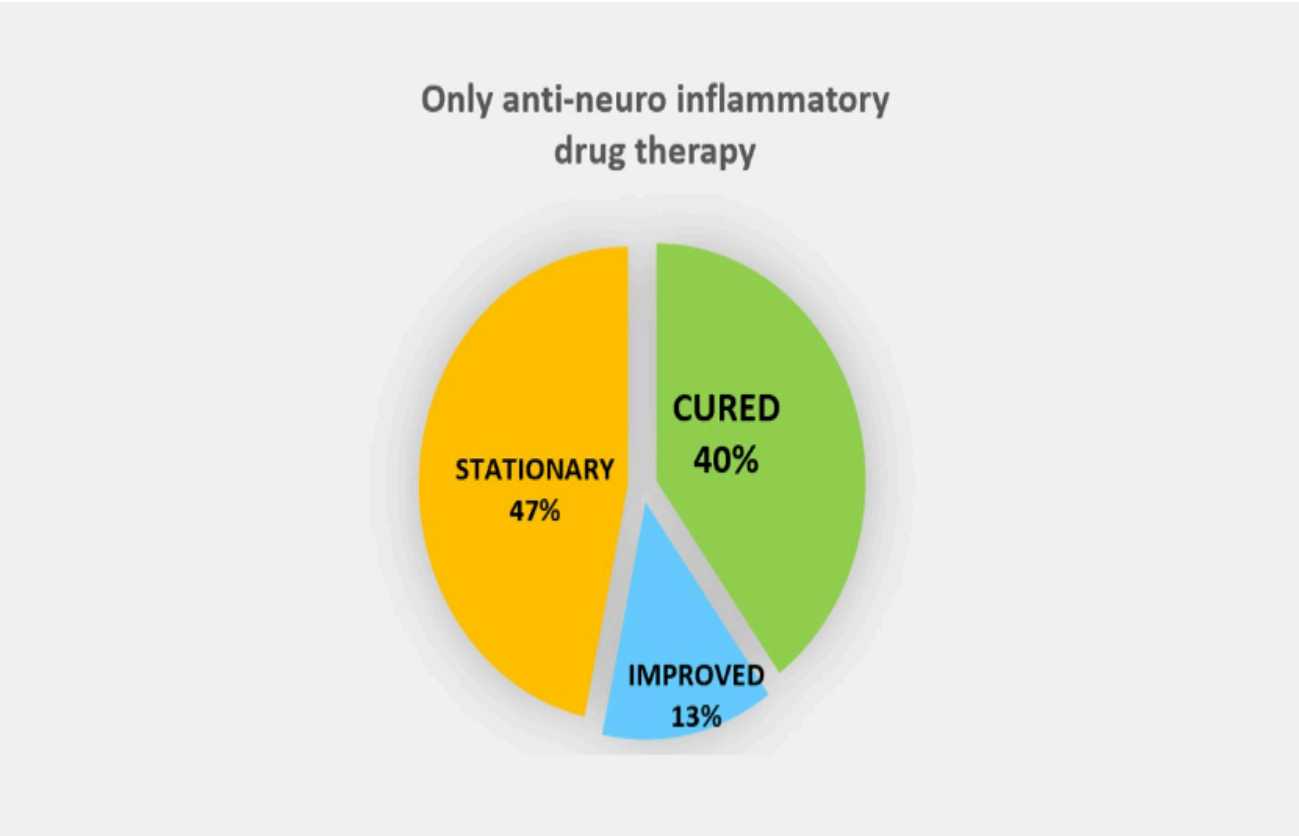
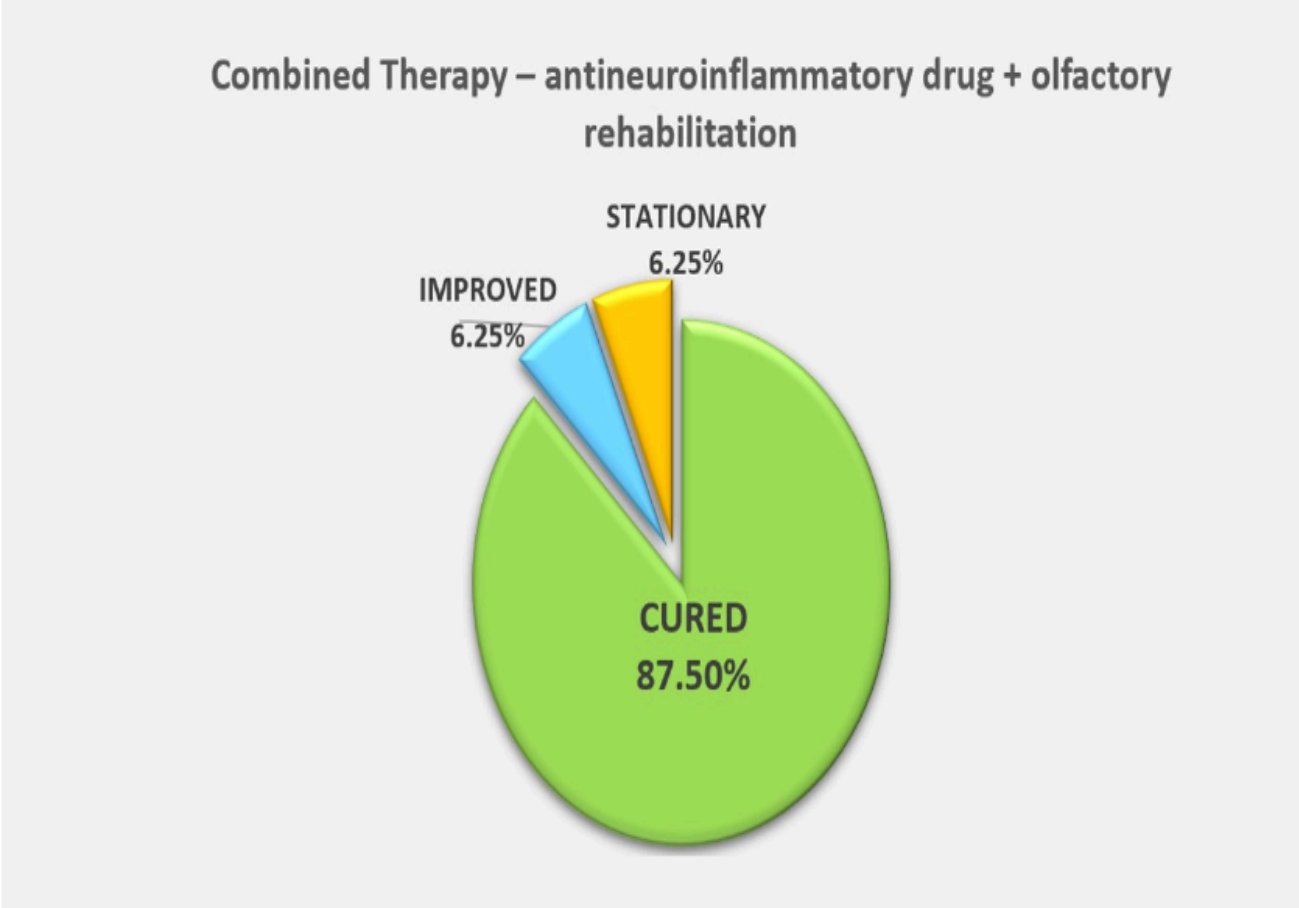

Only anti-neuro inflammatory drug therapy
CURED 40%
STATIONARY 47%
IMPROVED 13%

Fig. 4


Combined Therapy – antineuroinflammatory drug + olfactory rehabilitation
STATIONARY 6.25%
IMPROVED 6.25%
CURED 87.50%

FINAL CONSIDERATIONS

Anti-inflammatory drug therapy (alpha-lipoic acid 600 mg + palmitoylethanolamide 600 mg) combined with olfactory training made it possible to achieve recovery from Covid-19 anosmia in 87.5% of cases, after 30 days of treatment, with an approximately 47% increase in the cure rate compared with that obtained with drug therapy alone. The first results, although encouraging and supported by other research on the subject, require further verification by a multicenter study with more extensive sampling.

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Published 16 September 2021 · https://www.frontieraorl.it/en/smell-therapy/