Survey on the Attitude of Italian Otorhinolaryngologists Concerning the Topical Nasal Therapy

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ABSTRACT

OBJECTIVE

Nasal topical therapy plays a pivotal role in the management of a wide range of upper airway conditions, including allergic rhinitis, chronic rhinosinusitis, and postoperative care in nasal surgeries. The aim is to report a post hoc analysis on a survey on topical nasal therapy that included an extended list of pharmacological and non-pharmacological products to manage several upper respiratory tract diseases.

METHODS

This survey involved a questionnaire distributed via a web platform that ensured anonymity. Fellows of ORL Italian societies participated in the survey. The panel of experts who developed the Delphi Consensus drafted the questionnaire.

RESULTS

One hundred eight ORLs participated in the survey. Most of them were from Southern Italy and islands (57.4%). The most common disease topically treated is chronic rhinosinusitis with nasal polyps (82.4%), followed by allergic rhinitis (78.3%), non-allergic rhinitis (76.7%), chronic rhinosinusitis without nasal polyps (76.5%), chronic adenoiditis (73.4%), and acute rhinosinusitis and adenoiditis (70% and 69.8%, respectively).

CONCLUSION

This survey demonstrated that a group of Italian ORLs use topical nasal therapy essentially for type 2-mediated and infectious/inflammatory diseases, prefer a pre-dosed nasal spray and irrigation, and prescribe mostly corticosteroids and saline solutions.

Key words

Topical nasal therapy; nasal drops, antihistamines, otorhinolaryngologist; survey.

INTRODUCTION

The nasal cavity is not only a functional gateway for respiration but also a vital target for administering local and systemic medications. Thanks to its large mucosal surface area, high vascularity, and relative ease of access, the nose provides a strategic route for drug delivery. Nasal topical therapy involves applying therapeutic agents directly to the nasal mucosa, aiming to treat local inflammation, infection, or structural issues while reducing systemic side effects. The nasal mucosa is lined by pseudostratified ciliated columnar epithelium with goblet cells that assist in mucociliary clearance, a crucial defense mechanism against pathogens. Successful topical therapy depends on sufficient mucosal contact and drug retention. Factors such as mucociliary function, mucosal inflammation, and anatomical differences can affect drug distribution and effectiveness.[1]

Intranasal corticosteroids (INCS) are the main treatment for allergic rhinitis and chronic rhinosinusitis, with or without nasal polyps. Agents such as fluticasone, budesonide, mometasone, and beclomethasone offer potent anti-inflammatory effects by decreasing cytokine production, eosinophil recruitment, and vascular permeability.[2] Long-term use shows minimal systemic absorption and a high safety profile.[3]

Saline irrigation: Isotonic or hypertonic saline nasal irrigation helps clear mucus, allergens, and infectious debris, enhancing mucociliary function. Saline therapy is often recommended as an adjunctive treatment in rhinosinusitis, allergic rhinitis, and post-endoscopic sinus surgery care.[4]

In select cases of stubborn or postoperative chronic rhinosinusitis, topical antibiotics such as mupirocin, tobramycin, or levofloxacin may be used in saline solutions or delivered via atomizers. Antifungals like amphotericin B have been tested in allergic fungal rhinosinusitis, though their effectiveness remains debated. [5,6]

Topical anticholinergic agents (e.g., ipratropium bromide) help reduce rhinorrhea by suppressing glandular secretions. Topical antihistamines such as azelastine provide quick relief for allergic rhinitis and are often combined with INCS for synergistic benefits.[7]

Novel agents, including biologics, gene therapy vectors, and nanoparticles, are being explored to target chronic inflammatory diseases like nasal polyps and recalcitrant sinusitis. Liposomal formulations and mucoadhesive gels are also being developed to improve mucosal retention and drug delivery.[8] The choice of delivery system affects drug deposition within the nasal cavity. Available devices include: metered-dose nasal sprays, which are widely used but limited to anterior nasal deposition; nebulizers and atomizers that produce finer particles for deeper sinus penetration; nasal drops and rinses, which are helpful in postoperative and pediatric care; and pressurized irrigation systems that effectively treat extensive sinonasal disease. Patient education on head positioning and administration technique is crucial to ensure proper drug delivery.[9]

Nasal topical therapy is indicated in the following conditions: [10, 11]

- **Allergic Rhinitis**: INCS and antihistamines are the mainstay of treatment.
- **Chronic Rhinosinusitis (CRS)**: INCS and saline irrigation form the backbone of medical management; antibiotic and antifungal rinses are considered in select cases.
- **Nasal Polyposis**: Topical corticosteroids reduce polyp size and recurrence post-surgery.
- **Postoperative Care**: Enhances healing, reduces crusting, and prevents synechiae.
- **Epistaxis**: Topical estrogens or tranexamic acid may aid in managing anterior epistaxis[11].

We aimed to report a post hoc analysis on a survey on topical nasal therapy that included an extended list of pharmacological and non-pharmacological products to manage several upper respiratory tract diseases[11]. Another aspect of topical nasal therapy is the myriad usable devices. As a result, intranasal therapy is a complex and multifaceted matter that otorhinolaryngologists (ORLs) face daily. This complexity requires an in-depth knowledge of the issue, which only some specialists sometimes possess[12]. For this reason, an intersocietal Delphi Consensus tried to clarify the topic by proposing a series of statements[13]. After that, this steering committee conducted an intersocietal survey to portray the attitude of specialists about the current use of intranasal therapy in clinical practice[12]. However, the findings required considerable effort to interpret for each specialization. Thus, the present post hoc analysis aimed to evaluate the responses provided by ORLs alone.

METHODS

This survey involved a questionnaire distributed via a web platform that ensured anonymity. Fellows of ORL Italian societies participated in the survey[12,13]. The panel of experts who developed the Delphi Consensus drafted the questionnaire.

RESULTS

One hundred eight ORLs participated in the survey. Most of them were from Southern Italy and islands (57.4%). The most common disease topically treated is chronic rhinosinusitis with nasal polyps (82.4%), followed by allergic rhinitis (78.3%), non-allergic rhinitis (76.7%), chronic rhinosinusitis without nasal polyps (76.5%), chronic adenoiditis (73.4%), and acute rhinosinusitis and adenoiditis (70% and 69.8%, respectively).

As regards the used device, the most preferred nasal irrigation device was the high-volume/low-pressure device (47.6%), followed by the low-volume/high-pressure device (42.6%) and the syringe with nozzle (35.8%); for nebulization, the most preferred devices were pre-dosed spray (60.2%), nasal douches as pneumatic micronized (52.3%), nasal douches as manual micronized (50.6%), and atomizer nasal spray (39.8%).

The most commonly used prescribed molecules were corticosteroids (73.6%), isotonic saline (62.2%), hyaluronic acid (52.3%), hypertonic saline solution (44.6%), antihistamines (43%), and combined corticosteroids/antihistamines (39.1%).

Usually, participants prescribe cycles of topical therapy (81.5%), about half use continuously, and 55.6% as needed. Finally, almost all allergists (90.7%) train patients to perform topical nasal therapy correctly.

The most common diseases topically treated were allergic rhinitis (79.1%), chronic rhinosinusitis with or without nasal polyps (78.6% and 73.1%, respectively). Pre-dosed spray is the most frequently used device (66%). Corticosteroids are the most commonly used medication (67.2%), followed by isotonic saline solution (63%), hyaluronic acid (39.6%), hypertonic saline solution (39.3%), and antihistamines (39.1%).

DISCUSSION

These global findings highlighted the primary role of ORLs, such as managing infectious, inflammatory, and immune-mediated upper airway diseases. ORLs commonly prescribe corticosteroids, isotonic saline solution, and hyaluronic acid, which effectively address competence diseases.14,15 In addition, ORLs also prescribe hypertonic solutions and antihistamines, including fixed combination antihistamine plus corticosteroids. These substances reflect the main diseases managed by ORLs. Chronic rhinosinusitis with or without nasal polyps, allergic and non-allergic rhinitis, chronic and acute adenoiditis, and acute rhinosinusitis are the most frequent disorders dealt with by ORLs. Since these diseases share an inflammatory component, the use of anti-inflammatory agents and nasal washing constitute valuable therapeutic options. Interestingly, ORLs prefer nebulization over nasal irrigation. The possible reason could be the patient's preference for using a handy device that requires an easy and comfortable procedure administration.

Moreover, the duration of topical therapy is debated, as ORLs often prescribe topical therapy in cycles. However, since need-based topical therapy is a common option, mainly for relieving bothersome symptoms. Finally, most ORLs recognize that patient education and involvement are important for managing patients. Specifically, patient engagement is a crucial factor to ensure optimal treatment adherence and successful therapy.

However, the results of this survey should be carefully interpreted, as some limitations existed, including the restricted number of participants, the personal opinion-based outcomes, the lack of a validated questionnaire, and the partial involvement of all ORL societies.

CONCLUSION

This survey demonstrated that a group of Italian ORLs use topical nasal therapy essentially for type 2-mediated and infectious/inflammatory diseases, prefer a pre-dosed nasal spray and irrigation, and prescribe mostly corticosteroids and saline solutions.

Ethics Committee Approval: It was not needed as the study is an online survey.

Informed Consent: It was not needed as the study is an online survey.

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