

## Vasomotor Rhinitis: an Italian survey in clinical practice

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To the Editor,

Vasomotor rhinitis (VMR) is the most common type of chronic nonallergic rhinitis, affecting up to 10% of general population (1). The etiology is still unclear, the pathophysiological mechanisms are complex, and the diagnosis is of exclusion after a thorough workup. The leading pathogenic theory concerns an imbalance between adrenergic, cholinergic, and nociceptive pathways (2). The dysregulated mediators increase vascular leakage and mucus hyperproduction. Two main phenotypes characterize the patients with VMR: “blockers” with nasal obstruction and “runners” with rhinorrhea (3). Nasal hyperreactivity is a typical feature of VMR: environmental factors, including cold air, strong odors, smoke, alcoholic beverages, spicy foods, changes in atmospheric pressure, humidity, temperature, and wind elicit symptoms.

The VMR treatment includes pharmacological intervention and patient education to avoid irritative triggers. Anticholinergic, antihistaminic, and corticosteroid medications are usually prescribed in clinical practice (3). In addition, nasal lavages and surgery, in selected patients, are standard options.

Therefore, the present survey investigated the attitude of a group of 31 Italian rhinologists, expert in managing VMR patients. A series of questions have been proposed to the otolaryngologists. The questions concerned their practice and experience in managing

patients with VMR (Table I). The questions were sent by e-mail to the participants to this survey.

Descriptive statistics evaluated the responses, percentages of response were reported in Table 1.

The present survey demonstrated that, in the practice of participants, vasomotor rhinitis was common and usually affected middle adults.

Nasal obstruction was the most prevalent symptom as 74% of VMR patients reported this complaint. Also, patients frequently reported rhinorrhea as 55% of them had this symptom. Therefore, the present survey confirmed that the two prominent symptoms in VMR patients were nasal obstruction and rhinorrhea.

The phenotype affected the treatment choice as all participants prescribed intranasal corticosteroids. This outcome confirmed the common consensus on the inflammatory characteristic of VMR. In addition, the prevalent use of nasal lavages, mainly with hypertonic saline, and hyaluronic acid, demonstrated the full awareness that VMR is an inflammatory disease. However, the widespread use of anticholinergic and antihistaminic drugs was consistent with the high frequency of “runners.”

Mucus hyperproduction depends on two main pathways: release of mediators, mainly histamine, and sustained vagal tone. Ipratropium bromide is a selective antagonist of the muscarinic receptor, significantly reducing mucus production (4). In addition, corticosteroids are safe and effective molecules that significantly

**Table 1.** Questionnaire on vasomotor rhinitis.

How many patients (percentage) have vasomotor rhinitis in your clinic?	24.6% (range 4-70%)
What mean age have they (years)?	39.1 (range 20-65)
Do they have other nasal diseases?	Yes for 70% of patients (55% septal deviation, 40% chronic rhinosinusitis, 35% turbinate hypertrophy, 5% allergic rhinitis)
How long after the onset of symptoms do they usually go to the ENT specialist?	1.7 years (range 0.5-10 years)
What are the prevalent symptoms?	
Rhinorrhea %	55% (range 10-90%)
Sneezing %	39% (range 5-95%)
Itching %	33% (range 5-80%)
Obstruction %	74% (range 15-100%)
What tests do you use for diagnosis?	Fiberoptic rhinoscopy 75%, skin prick test 70%, rhinomanometry 45%, nasal provocation test 30%, computer tomography 15%, nasal cytology 10%, decongestion test 10%.
What classes of drugs do you use?	
Anticholinergic	Yes 19 (62%)
Oral Antihistamines	Yes 12 (39%)
Intranasal Antihistamines	Yes 21 (68%)
Intranasal Corticosteroids	Yes 31 (100%)
Systemic Corticosteroids	Yes 8 (25%)
Nasal Lavages	Yes 28 (90%)
Hyaluronic Acid	Yes 21 (68%)
Other	Local antibiotics (5; 16%); Glycyrrhetic acid (5; 16%); local biotherapy (1; 3%)

reduce nasal inflammation and, consequently, reduce nasal complaints, mainly concerning obstruction (5). Intranasal antihistamines are also useful in VMR patients (5).

There is also consensus that ipratropium bromide combined with an intranasal corticosteroid is more effective than either drug alone for relieving rhinorrhea (6). This combination is also safe. Also, corticosteroids and anticholinergic drugs may also counteract nasal hyperreactivity (6).

In conclusion, this survey demonstrated that vasomotor rhinitis is a common medical disorder in otolaryngology practice. In this setting, the mean age of VMR patients was relatively young, but a specialist visit was frequently delayed. Nasal obstruction and rhinorrhea were leading symptoms reported by VMR patients. Nasal corticosteroids, antihistamines, and ipratropium bromide were the prevalent medications prescribed for VMR patients.

**Conflict of Interest:** Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article

**Authors' Declaration:** the authors declare that they have obtained approval and informed consent from recruited rhinologists.

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