

## Respiratory Diseases in Children (Rhinitis)

*Abdumuxtarova Madinabonu Zafarovna*

*Andijan State Institute Department of Faculty Pediatrics and Neonatology*

**Abstract:** Rhinitis is an inflammation of the nasal mucosa, characterized by symptoms such as nasal congestion, rhinorrhea (runny nose), sneezing, itching, and postnasal drip. It can be acute or chronic and may result from infections, allergens, irritants, or underlying systemic conditions. While often considered a minor health issue, rhinitis can significantly affect quality of life, sleep, and daily functioning. The condition may occur as an isolated disorder, such as allergic or non-allergic rhinitis, or as a symptom of other diseases, including sinusitis, respiratory infections, or structural nasal abnormalities. This article provides a comprehensive overview of the etiology, pathophysiology, clinical manifestations, diagnostic approaches, and modern strategies for the treatment and management of rhinitis. Special attention is given to preventive measures, lifestyle modifications, and pharmacological interventions aimed at reducing symptom severity and improving patient outcomes.

**Keywords:** Rhinitis, runny nose, inflammation of the nasal mucosa, acute rhinitis, chronic rhinitis, allergic rhinitis, vasomotor rhinitis, infectious rhinitis, respiratory viruses, allergens, nasal congestion.

**Introduction:** Rhinitis is one of the most common diseases of the ENT organs and upper respiratory tract. It occurs at any age and is often perceived as a harmless condition that does not require medical attention. However, persistent or intermittent obstruction of nasal breathing affects the development of malocclusion and increases the risk of developing otitis media, sinusitis, pneumonia, and bronchial asthma. That is why, regardless of the type of disease and the severity of symptoms, rhinitis in children requires regular medical monitoring and comprehensive treatment.

The pathological process develops in almost all young patients. On average, a 7-year-old child experiences up to 10 episodes of inflammation in their lifetime, which is not surprising given the barrier function of the nasal mucosa. The disorder can have various origins: bacterial, viral, fungal, or allergic. It is important to accurately determine the cause of the disorder in order to prescribe appropriate treatment. Another name for this condition is "runny nose," which does not fully reflect the nature of the pathology.

**Literature Review:** Rhinitis is a common condition affecting both children and adults, with significant implications for quality of life and overall health. According to Bousquet et al. (2008), rhinitis can be classified into allergic rhinitis (AR) and non-allergic rhinitis (NAR), with allergic rhinitis being the most prevalent worldwide. Allergic rhinitis results from IgE-mediated hypersensitivity reactions to airborne allergens such as pollen, dust mites, animal dander, and mold (Small et al., 2018). Non-allergic rhinitis, in contrast, is triggered by environmental irritants, infections, hormonal changes, or medications (Settipane, 2013).

Several studies emphasize the increasing prevalence of rhinitis in urban populations, potentially due to environmental pollution, changes in lifestyle, and the "hygiene hypothesis," which suggests reduced early-life microbial exposure may increase susceptibility to allergic diseases (Bousquet et al., 2015). Chronic rhinitis has been associated with complications such as sinusitis, sleep disturbances, impaired cognitive function, and reduced work productivity (Ciprandi et al., 2017).

Diagnosis of rhinitis relies on clinical history, physical examination, and, in allergic cases, diagnostic tests such as skin-prick testing or serum-specific IgE measurement (Scadding et al., 2017).

Management strategies are multifaceted, including allergen avoidance, pharmacotherapy (intranasal corticosteroids, antihistamines, decongestants), immunotherapy, and lifestyle modifications (Luo et al., 2020). Recent research highlights the importance of personalized treatment plans based on patient-specific triggers, severity of symptoms, and comorbidities (Bousquet et al., 2020).

Emerging studies also explore the role of the nasal microbiome in the pathogenesis of rhinitis and potential probiotic interventions to restore mucosal immunity (Jang et al., 2021). Overall, the literature indicates that a comprehensive understanding of etiology, environmental factors, and individual patient profiles is crucial for effective management and prevention of rhinitis.

**Analysis and results:** Depending on the cause, rhinitis can be allergic or non-allergic. Allergic rhinitis is characterized by the absence of inflammation of the nasal mucosa and is treated like any other allergic disease.

Non-allergic rhinitis in children and adults is divided into types depending on the course of the disease: acute, subacute, and chronic. In turn, the chronic form of the disease can be simple (catarrhal, hypertrophic, atrophic, vasomotor, or mixed).

Symptoms of acute rhinitis in children: Symptoms of rhinitis in children can vary. The most characteristic clinical picture is observed with acute damage to the body and the patient's nasal passages. In the infectious form, mucus (snot) has a yellow tint, which most often indicates a bacterial nature of the disorder. Signs of general intoxication of the body are present: fever develops, body temperature rises to 37-39 degrees Celsius. Headaches, weakness, and other characteristic symptoms are present. Allergic types manifest similarly. However, the temperature is normal, and the mucus is clear. However, excruciating itching develops. Tearing is possible. Chronic types of the pathological process are much less obvious, with mild manifestations. The picture is characterized by sparseness, and the symptoms are barely noticeable. However, an exacerbation of the disorder can occur at any time. According to our estimates, the disease becomes chronic very early, reaching a persistent stage. Progression is measured in days, not weeks. Therefore, it is important to consult a doctor at the first sign of symptoms.

Acute rhinitis in children has several stages, each characterized by its own symptoms:

irritation stage: the child experiences nasal congestion and severe difficulty breathing through the nose;

serous stage: characterized by copious clear nasal discharge, sneezing, and lacrimation;

mucopurulent stage: the discharge thickens, becomes purulent, and its volume gradually decreases.

If a child develops posterior rhinitis, symptoms may be less pronounced, as the discharge primarily drains down the back of the throat.

In addition to the typical problems associated with inflammation of the nasal mucosa, the child may experience:

- ✓ Weakness;
- ✓ Headache;
- ✓ Insomnia;
- ✓ Fatigue;
- ✓ Decreased sense of smell;
- ✓ A constant feeling of mucus in the throat;
- ✓ Memory problems.

Symptoms of Chronic Rhinitis in Children Symptoms are usually less pronounced than in the acute stage of the disease. The child may complain of: intermittent nasal congestion on one side or the other, scant mucous or mucopurulent discharge, cough that intensifies in a horizontal position and is associated with mucus dripping down the back of the throat, decreased sense of smell, nasal and hoarse voice, fatigue, decreased academic performance, intermittent headaches, etc.

#### Causes of Rhinitis

Acute or chronic non-allergic rhinitis in children can occur for various reasons.

The main ones include:

viral and bacterial infections;

hypothermia;

decreased immunity;

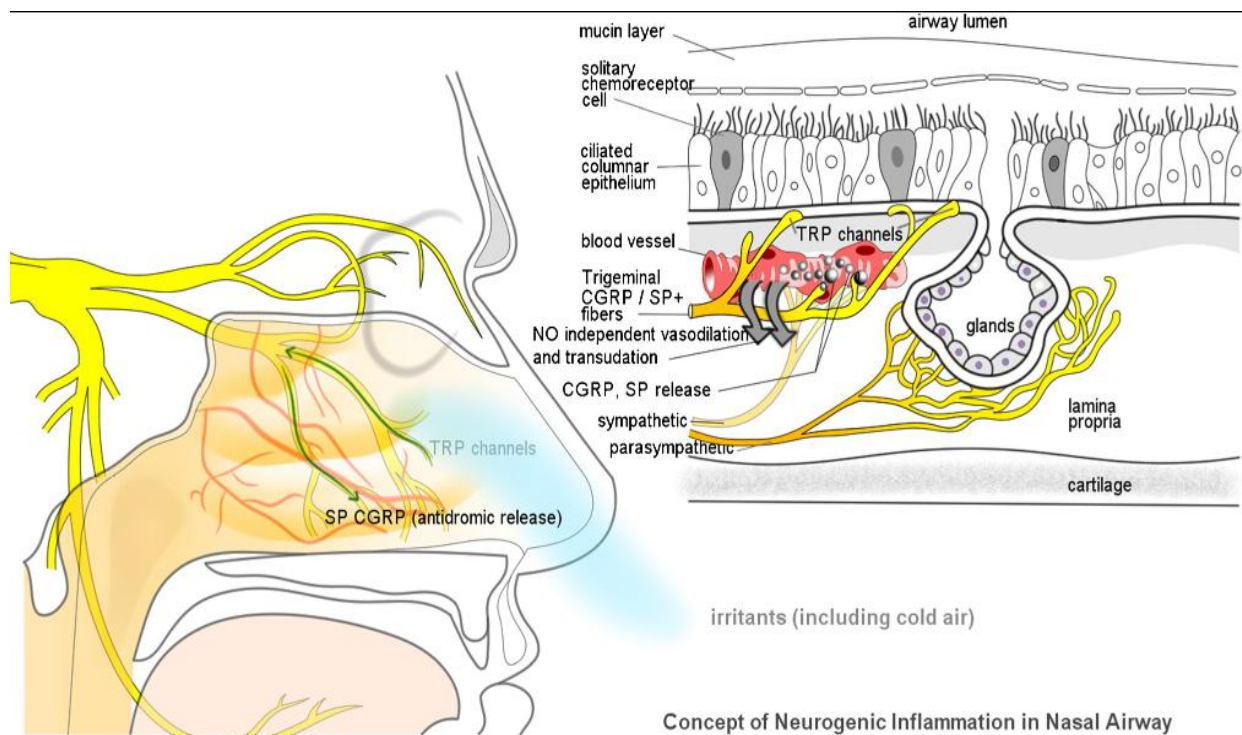
exposure to chemically harmful and hazardous substances;

dry indoor air;

impaired blood circulation in the nasal cavity;

impaired excitability of parts of the autonomic nervous system (characteristic of the vasomotor form).

To prescribe effective treatment, it is necessary to determine the type of rhinitis.



**Picture 1. The mechanism of non-allergic rhinitis: an imbalance between the sympathetic and parasympathetic components of the nasal mucosa**

For this purpose, our specialists conduct a comprehensive diagnosis, including a physical examination, microbiological examination of nasal secretions, rhinoscopy, cytological examination of nasal secretions, and endoscopic examination of the nasal cavity. Based on the diagnostic results, examinations by related specialists, such as an allergist, endocrinologist, and others, may be prescribed.

The choice of treatment method for rhinitis in children largely depends on its cause, the nature of the course, the severity of symptoms, and concomitant diseases. Typically, therapy includes:

topical agents: drops, sprays, and rinsing solutions;

medications: antibiotics, antipyretics, antivirals, antihistamines, etc.;

physiotherapy techniques: laser therapy, UV therapy, etc.

Medications for the treatment of rhinitis in children

Depending on the type of disease, its cause, and the child's age, the doctor may prescribe medications from various groups. The most commonly used medications are:

nasal irrigation and moisturizing agents (saline solutions): help remove excess mucus;

vasoconstrictors: reduce swelling of the mucous membrane; use with extreme caution in young children due to the high risk of side effects;

topical antiseptics in the form of drops or sprays;

topical and systemic antihistamines, including hormonal ones;

antibacterial and antiviral medications.

The choice of a specific medication, its dosage, frequency of use, and duration of treatment are determined only by a doctor. Self-medication can lead to serious complications!

An otolaryngologist or pediatrician determines the diagnostic methods for rhinitis in children. The examination includes a series of instrumental and laboratory tests. Methods include interviewing the parents and the child (if the child is of sufficient age to formulate thoughts), taking a medical history, performing a rhinoscopy to examine the nasal mucosa, performing a sinus X-ray to rule out sinusitis, performing a nasal culture, performing serological tests to identify the pathogen, performing blood tests, and performing allergy tests if the specialist suspects an allergy is the culprit.

Diagnostic measures are developed individually, taking into account the specifics of the situation.

Rhinitis treatment in children is performed on an outpatient basis. Inpatient therapy is usually not required. Treatment is always based on medication. The following group of medications is used:

- ✓ antibiotics;
- ✓ antiviral drugs;
- ✓ antifungal medications (depending on the causative agent);
- ✓ anti-inflammatory and antipyretic drugs;
- ✓ antihistamines for allergic reactions;
- ✓ hormones (also for allergies).

## Conclusion

1. Rhinitis is a common respiratory disease that can be either acute (infectious) or chronic (allergic, vasomotor, etc.).
2. The main clinical manifestations of rhinitis include nasal congestion, profuse discharge, sneezing, decreased sense of smell, and a general deterioration in the patient's quality of life.
3. The etiology of rhinitis is multifactorial: it can be caused by viruses, allergens, exposure to unfavorable environmental factors (dust, chemicals), and immune system disorders.

4. Timely diagnosis and treatment (use of antiallergic medications, anti-inflammatory therapy, and physical therapy) can prevent complications such as sinusitis, otitis, or asthma.
5. Preventive measures—strengthening the immune system, eliminating allergens, maintaining an optimal indoor microclimate, and practicing good personal hygiene—play a key role in reducing the incidence and severity of the disease.

### Literature

1. А.А. Блоцкий, В.В. Антипенко. ВОСПАЛИТЕЛЬНЫЕ ЗАБОЛЕВАНИЯ ЛОР ОРГАНОВ: учебное пособие – Благовещенск, 2021, 553 с.
2. Оториноларингология: учебник для вузов / В. Т. Пальчун, М. М. Магомедов, Л. А. Лучихин. - 2-е изд., испр. и доп. - 2008. - 656 с. : ил.
3. Богомилский, М. Р. Болезни уха, горла, носа в детском возрасте : национальное руководство / под ред. М. Р. Богомилского. - 2-е изд. , перераб. и доп. - Москва : ГЭОТАР-Медиа, 2021. - 1072 с.
4. Овчинников Ю.М., Лопатин А.С., Гамов В.П.. Болезни носа, глотки, гортани и уха. — М.: Медицинское информационное агенство, 2008. — 320 с.
5. Аллергический ринит у детей. Клинические рекомендации РФ 2013-2017 (Россия).
6. Хронический ринит. Клинические протоколы МЗ РК - 2013 (Казахстан).
7. Геппе Н.А., Старостина Л.С., Батырева О.В., Фарбер И.М., Озерская И.В., Малявина У.С. Взгляд педиатра на ринит у детей. Подход к терапии деконгестантами. РМЖ. 2013;2:66.
8. Иванов В.А., Леписева И.В., Заплатников Ринит в практике врача–педиатра: принципы диагностики, лечения и профилактики. РМЖ. 2005;1:65.
9. Елена Полякова. Ухо, горло, нос: Органы чувств. Амфора, 2013. ISBN 978-5-367-02541-5. С. 14. *Издание для практикующих врачей «Русский медицинский журнал»*. Современный взгляд на проблему ринита. [www.rmj.ru](http://www.rmj.ru).
10. Bernstein JA, Singh U (Anpелль 2015). *Neural Abnormalities in Nonallergic Rhinitis. Current Allergy and Asthma Reports*. 15 (4): 18. doi:10.1007/s11882-015-0511-7. PMID 26130469. S2CID 22195726.
11. *Издание для практикующих врачей «Русский медицинский журнал»*. Современный взгляд на проблему ринита. [www.rmj.ru](http://www.rmj.ru).
12. Внутренние болезни животных: учебник для вузов / Б. В. Уша [и др.]; Под ред. Б. В. Уша. — М.: КолосС, 2010. — 311 с.
13. Патология и терапия внутренних незаразных болезней сельскохозяйственных животных / Г. В. Домрачёв и др. — М., 1960. — 504 с.
14. Самура Б. А., Черных В. Ф., Лепяхин В. К. и др. Фармакотерапия с фармакокинетикой: Учебное пособие для студентов высш. учеб. заведений // Под ред. Б. А. Самуры. — Харьков: Изд-во НФаУ: Золотые страницы, 2006. — 472 с.
15. Самура Б. А., Малая Л. Т., Черных В. Ф. и др. Лекции по фармакотерапии // Под ред. Б. А. Самуры. — Харьков: Изд-во НФаУ: Золотые страницы, 2004. — 544 с.
16. Огородников Д. С., Пальчун В. Т. Насморк: Как его одолеть // Мама и малыш. — 2004. — № 5.