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Clinical and Functional Aspects and Improvement of Treatment of Year-Round Allergic Rhinitis in Children

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Annotation: Comorbid course of allergic rhinitis with bronchial asthma in the world in-depth study of the immunological aspects of pathogenesis and treatment a number of scientific studies aimed at improving the methods is being implemented. Bronchial allergic rhinitis in children Clinical and immunological features of a comorbid course with asthma studying the features of allergic rhinitis with bronchial asthma determination of levels and immunological research aimed at determining the interdependence of disorders The results have been published. Allergic rhinitis with bronchial methods of early diagnosis and treatment of the comorbid courseimprovement of the effectiveness of the differentiated treatment method assessment, allergen administered in children with these diseases Specific immunotherapy (SIT) is a pressing issue facing specialists in this field.

Keywords: children, allergic rhinitis, bronchial asthma, allergen specific immunotherapy, sublingual immunotherapy.

The problem of allergic rhinitis (AR) in children remains relevant today. In the structure of the prevalence of allergic diseases, the proportion of allergic rhinitis is very high (60-70%). The epidemiology of allergic rhinitis, the average prevalence of allergic rhinitis among children ranges from 8.5% at 6 years of age to 34% in adolescents. (according to WHO). The development and course of allergic diseases are significantly influenced by natural-climatic, ecological factors, lifestyle and nutrition, as well as the individual reactivity of the body. The genetic contribution to the development of allergic diseases is estimated at more than 50%, with heritability ranging from 36 to 79%.

One of the urgent tasks of otorhinolaryngology is to improve the effectiveness of AR treatment. Year-round AR has a chronic course with persistent symptoms and a decrease in children's quality of life. Based on this, assessing the effectiveness of treatment is one of the main tasks in the disease control strategy. The lack of optimal, simplified diagnostic and differential diagnostic algorithms, including modern comprehensive research methods that determine the coordination of actions between all specialists, is the reason for unsatisfactory treatment outcomes for children suffering from year-round AR.

The presence of concomitant pathology of the nose and paranasal sinuses, bronchial asthma, as well as autonomic nervous system dysfunction, negatively affects the course of AR.

The onset of clinical manifestations of allergic rhinitis, according to scientific research, is defined as the presence of allergen exposure in 2-3 seasons. It has been determined that the prevalence of the disease and its clinical course depend on the age and sex of the children. AR is more common among boys than among girls, occurring between the ages of 6 and 7, while the opposite trend is observed between the ages of 13-14.

All of the above determines the relevance of the research topic and confirms the need for in-depth study of the features of the clinical course of year-round AR in order to clarify the pathogenesis of the disease, increase the effectiveness of diagnosis and treatment, as well as the quality of life of children. Clinical observations have established the important role of the autonomic nervous system in the development of ENT diseases and the need to correct autonomic disorders during their treatment. Scientific data indicate a decrease in vegetative reactivity and vegetative support of activity in most patients with year-round AR.

Purpose of the research. Optimization of the treatment tactics for year-round AR in children, taking into account the state of the initial vegetative tone of the body and its influence on the clinical and functional features of the disease.

Research objectives:

1. Conduct a comprehensive clinical, functional, and laboratory examination of children with year-round AR and analyze the obtained data.
2. Determine the initial vegetative tone in children suffering from year-round AR.
3. Analyze the clinical and diagnostic methods and treatment of year-round AR in children using the developed questionnaire for primary care physicians.
4. Evaluate the results of complex drug therapy in patients with RAR, taking into account the initial vegetative tone of the child's body.

Clinical material and research methods.

The study and treatment of patients were conducted at the Department of Otorhinolaryngology of the Andijan State Medical Institute. The research period was 2 years: from November 2020 to December 2022. Clinical material collection was carried out in the otorhinolaryngology department, the allergist's office of the Andijan Regional Multidisciplinary Children's Medical Center (VBIMC), and the allergist's office of the Central Multidisciplinary Polyclinic.

92 patients suffering from ARF aged 7-16 years were examined, of which 52 (57%) were girls and 40 (43%) were boys. The control group consisted of 20 healthy children who had no allergic manifestations, acute viral infections, or a complicated hereditary history of allergic diseases in recent months.

Results and Discussion

The patients included in the study were selected in 3 stages from among sick children with nasal and paranasal sinus pathologies.

The procedure for selecting sick children included in the study material for 2020-2022.

Stages of examination	Total surveyed	Distribution of sick children		
		Regional Multidisciplinary Children's Medical Center		Central Multidisciplinary Polyclinic
		ENT department	Children's allergist's office	Cabinet allergist
I	976 - 100%	625 - 64%	185 - 19%	166 - 17%
II	312 - 100%	75 - 24%	131 - 42%	106 - 34%
III	92 - 100%	27 - 29%	39 -42%	26 - 29%

At the first stage, 976 children who applied to the allergology office and otorhinolaryngology department of the Andijan Regional Multidisciplinary Children's Medical Center and the allergology office of the Central Multidisciplinary Polyclinic were examined. Patients presented complaints characteristic of nasal and paranasal sinus diseases.

In the second stage of the study, 312 children with clinical symptoms of year-round AR were identified based on clinical and laboratory indicators. These patients had various acute and chronic diseases of the nose and other body organs along with ARF.

At the third stage, 92 patients with year-round AR were selected. These patients were included in the research development. They were excluded from concomitant acute and most chronic diseases. Some patients were transferred to the remission stage.

Diagnosis verification was achieved by mandatory confirmation of its clinical and laboratory indicators, characteristic complaints, and allergological history, including the presence of risk factors for allergy development, clinical symptoms, characteristic changes in the general blood count, and positive treatment results when using antihistamines in the past.

In order to fully collect characteristic complaints and allergic history, children aged 7-16 years were distributed according to age and gender. Presented in the table

Distribution of examined children by age and sex

Age	Total number		Floor	
	absolute	Percent	Boys	Girls
7-8	7	7,7	4	3
8-9	10	10,9	6	4
9-10	12	13,0	5	7
10-11	12	13,0	5	7
11-12	14	15,3	6	8
12-13	13	14,1	4	9
13-14	10	10,8	4	6
15-16	6	6,5	3	3
16-17	8	8,7	3	5
Bcero	92	100%	40 (43%)	52 (57%)

As can be seen from Table 2.2, year-round AR was more common in children aged 10-16. At 7-8 years old, boys were more likely to get sick, at 13-14 years old, girls were more likely to suffer. The duration of the disease ranged from 3 months to 12 years. The average duration of the disease was 4.1±0.6 years.

During the study, 92 patients with ARF were divided into two groups. The first group consisted of 36 patients with ARF, who, according to the questionnaire, had no complicated allergic history. The second group included 56 patients with a complicated allergic history. Each of these groups,

taking into account the state of the body's initial vegetative tone, is divided into 3 subgroups.

Groups of children with year-round allergic rhinitis

First group of children 36	Second group of children 56
Subgroup 1A **17 children** **VT vagotonia**	Subgroup 2A 30 children VT vagotonia
Subgroup 1B **10 children** **IVT normotonia**	Subgroup 2B 14 children IVT normotonia
Subgroup 1B **9 children** **Sympathicotonia of IVT**	Subgroup 2B 12 children Sympathicotonia of IVT

CONCLUSION

In recent years, despite significant progress in the diagnosis and treatment of allergic rhinitis, the prevalence of the disease has increased from 10-20% to 30% in various countries of the world (according to WHO data).

The transmission rate of allergic rhinitis from generation to generation is also high. Despite the large number of recommended treatment protocols for patients with allergic rhinitis, no significant improvement in treatment results has occurred in recent years.

Analysis of these literature sources showed:

- imperfection of the diagnostic algorithm, which includes modern informative research methods, determining the order of interaction and sequence of work of various specialists with children with ARF;
- the fragmented nature of data on the clinical manifestations of vegetative changes during year-round AR in children, their dynamics under the influence of various treatment methods, and their targeted correction.

Based on this, the goal and objectives of the study were formulated.

The study included 92 patients with year-round AR aged 7-16 years. ARF was more common in age groups of 9-10, 10-11, 11-12, 12-13, less commonly in 7-8 and 15-16 years. According to the survey results, among the examined children, there was a predominance of patients with a complicated heredity for allergic diseases - 56 (60.8%), who constituted the second group of children with AR. The first group included 36 children without a complicated allergic history. Taking into account the severity of CAR, patients were distributed as follows: mild course - 27 (29.4%), moderate course - 42 (45.6%), severe course - 23 (25%), i.e., the predominance of the moderate course of the disease was noted. In the first group of patients with ARF, the severe form was less common - 6 (16.7%), mild and moderate - 18 (50%) and 12 (33.3%), respectively. In the second group of patients with ARF, the moderate form was most common - 30 (53.6%), the mild form occurred only in 9 (16%) patients, and in 17 (30.4%) patients, the disease was severe. The identified trend confirms the manifestation of ARF in the presence of hereditary complications in more severe forms.

Regarding the manifestation of endoscopic and radiological changes in various severity of CAR, a certain pattern was observed. All characteristic rhinoscopic signs (pale mucous membrane of the nasal cavity, pronounced Voyachek spots, swelling of nasal sinuses, cushion-like hypertrophy of the nasal mucosa) were more pronounced in the severe and moderate forms of the disease, and in the mild course - only isolated slightly pronounced changes. In 39 (41.9%) patients, pronounced swelling of the lower nasal sinuses was observed, complete obstruction of the common nasal passages - in 24 (25.5%), and bilateral thickening of the maxillary sinus mucosa - in 46 (50%)

patients. Darkening of lattice labyrinth cells in 20 (22.1%) sick children.

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