

ANALYSIS OF THE COMBINATION OF BRONCHIAL ASTHMA AND ALLERGIC RHINITIS IN CHILDREN

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Abstract. According to most researchers, today there is a tendency to increase the incidence of many allergic pathologies, including such pathologies as bronchial asthma (BA), in addition, most patients with this pathology have the addition of combined diseases, among which allergic rhinitis is most often diagnosed as a concomitant pathology in BA. The purpose of this study was to evaluate comorbid forms of asthma in combination with allergic rhinitis in children. The study was based on a survey of 42 children diagnosed with atopic asthma, during which, according to the results of an ENT examination, it was revealed that allergic rhinitis was diagnosed in 23 (54.8±4%) of the studied children.

Keywords: allergic rhinitis, bronchial asthma, concomitant pathology, children, comorbid condition.

Relevance. Bronchial asthma (BA) is a chronic inflammatory pathology of the respiratory system, characterized by the presence of additional concomitant diseases and comorbid conditions, the presence of which undoubtedly influence the course of the main pathological condition, thereby aggravating the process, among which allergic rhinitis is most often diagnosed as a concomitant pathology in BA. Allergic rhinitis (AR) is an inflammatory pathology of the nasal mucous membranes that occurs when allergens of various nature interact with the nasal mucous tissues [1,2].

According to most researchers, today there is a tendency to increase the incidence of many allergic pathologies, including such pathologies as bronchial asthma (BA), in addition, the majority of patients with this pathology have the addition of concomitant diseases, and according to WHO data, More than 25% of people living in a city with increased industry and developing infrastructure have a high incidence of these conditions [3].

Today, researchers have begun to increasingly use the terminology of the condition comorbidity in order to describe the combination of two or more concomitant pathologies found in one patient, the pathogenesis of which is based on the involvement of organs and tissues similar in structure, having a direct correlation and relationship, among which today the combination of asthma and allergic rhinitis is the most studied [4,5].

According to studies carried out in the USA (2017), there are results indicating the prevalence of asthma in 25 million people, constituting 7-8% of the country's population, and according to a number of scientific works, 14-28% of the population suffer from allergic rhinitis, while in 30-70% of patients with the atopic form of asthma, during the period of exacerbation of the pathology, symptoms of allergic rhinitis occur; in addition, in this category of patients there is often sensitization to hay fever (50-55%), household allergens (65-75%) and epidermal allergens (35-45%). In patients diagnosed with allergic rhinitis, asthma is diagnosed almost 3 times more often when compared with patients who do not have this pathology, which indicates a high correlation of the above two nosologies, in addition, in more than 70% of patients with symptoms of allergic rhinitis, the subsequent development of asthma is noted, and in children under 7 years

of age, AR is most often diagnosed after they are diagnosed with asthma, which is most likely due to the delayed diagnosis of AR or its late manifestation [6,7].

BA may be associated with allergic rhinitis, and non-allergic etiology, the form of which most often depends on the patient's allergophone, and according to COPSAC (2011), patients with AR have increased bronchial reactivity and a high concentration of nitric oxide in the exhaled air, which indicates participation in the allergic process as upper and lower parts of the respiratory system, which became the basis for differentiating allergic and non-allergic forms of rhinitis [8].

As is already known, if there are signs in the family history atopic conditions (AR, dermatitis, conjunctivitis, urticaria, angioedema, etc.) increase the likelihood of asthma in children, and when determining the presence of atopic pathologies in one parent, the likelihood of developing an atopic condition in a child increases by 20-40%, in the presence of atopy in both parents - 40-80%, and when detected in brothers or sisters - 20-35%, in addition, there are studies confirming the inheritance of IgE hyperproduction [9]. All of the above data indicate the need to examine patients with AR for signs of asthma, and patients with asthma should undergo examination to exclude the diagnosis of AR [10].

Purpose This study was aimed at assessing comorbid forms of asthma in combination with allergic rhinitis in children.

Materials and principles of research. To conduct the study, we analyzed the outpatient records of 42 patients, in the age range from 6 to 18 years, admitted to the City Children's Clinical Hospital No. 1 of Tashkent with a diagnosis of "Atopic bronchial asthma" for the period from February 2023 to February 2024, average The age of the studied patients was 12.1 ± 2.8 years, 24 females, 18 males. Among the children studied, 28 patients had an atopic form of asthma of a mild type, and 14 patients had a moderate course of the disease, while in all patients asthma was first diagnosed more than a year ago and more than 3 periods of exacerbation at the time of admission, while all patients used inhaled glucocorticosteroids in minimal or medium doses for more than a year to treat asthma. The distribution of patients participating in the study was carried out according to age characteristics:

Group I-patients in the age range from 6 to 10 years (12 children);

Group II-patients in the age range from 10 to 14 years (16 children);

III group-patients in the age range from 15 to 18 years (14 children);

Research results. The study was based on a survey of 42 children diagnosed with atopic asthma, during which, according to the results of an examination of ENT organs, it was revealed that allergic rhinitis was diagnosed in 23 ($54.8 \pm 4\%$) of the studied children, and when analyzing the incidence of AR by group, it was determined that in the first group this pathology was detected in 5 children, in the second group in 9 cases, and in the third age group in 9 cases, the results of which are shown in Table 1.

Table 1

AR incidence rate in the studied groups

Groups studied	Presence of allergic rhinitis	No allergic rhinitis
Group I	5 (41.67%)	7 (58.33%)
Group II	9 (56.25%)	7 (43.75%)
III group	9 (64.28%)	5 (35.72%)
Total	23 (54.76%)	19 (45.24%)

Conclusion. As the results of the study indicate, in patients diagnosed with atopic asthma during an exacerbation or at the time of admission to the hospital, in 54.76% of cases the presence of symptoms of allergic rhinitis was noted, which indicates a correlation between these pathological conditions. At the same time, it is advisable to refer patients with asthma upon admission with an exacerbation of the condition for a consultation to an ENT specialist to exclude or identify AR in order to early start therapy and prevent the development of complications.

REFERENCES

1. Emelyanov A.V. Allergic rhinitis: clinical recommendations / A.V. Emelyanov, ed. A.S. Lopatina, V.V. Shilenkova. - St. Petersburg: Skifia-print; M.: Profmedpress, 2022. - p. 66.
2. Gustaffson G. Development of allergies and asthma in infants and young children with atopic dermatitis – a prospective follow_ up to 7 years of age / G. Gustaffson, O. Sjoberg, T. Foucard // *Allergy*. — 2000. — 55. — p. 240-245.
3. Nenasheva N.M. Bronchial asthma and concomitant diseases: allergic rhinitis in focus / N.M. Nenasheva // *Asthma and allergies*. — 2014. — 1. — p. 18-26
4. Gadzhimirzaev G.A. On the mechanisms of the relationship between allergic rhinitis and bronchial asthma and treatment features (literature review) / G.A. Gadzhimirzaev, R.G. Gadzhimirzaeva, E.G. Gamzatova et al. // *Russian otorhinolaryngology*. - 2017. - 5(90). - c. 88-96.
5. Bousquet J. Allergic rhinitis and its impact on asthma / J. Bousquet, P. Van Cauwenberge, N. Khaltaev // *J Allergy Clin Immunol*. - 2001. - 108. - p. 147-334.
6. Ilyina N.I. Federal clinical guidelines: Allergic rhinitis / N.I. Ilyina, O.M. Kurbacheva,
7. K.S. Pavlova and others // *RAZH*. — 2017. — 2. — p. 47-54.
8. The International Study of Asthma and Allergies in Childhood (ISAAC) Steering Committee. Worldwide variation in prevalence of symptoms of asthma, allergic rhinoconjunctivitis, and atopic eczema: ISAAC // *Lancet*. - 1998. - 351. - p. 1225-1232.
9. Ivanova N.A. Comorbidity of allergic rhinitis and bronchial asthma in children / N.A. Ivanova // *Medical Council*. — 2014. — 1. — p. 54-58.
10. Casale TB Clinical implications of the allergic rhinitis-asthma link / TB Casale, MS Dykewicz // *Am J Med Sci*. - 2004. - 327. - p. 127-138.
11. Emelyanov A.V. Allergic rhinitis and bronchial asthma in real clinical practice. Results of the Russian multicenter study / A.V. Emelyanov, L.A. Goryachkina, N.G. Astafieva and others // *Ross. allergological journal*. — 2012. — 1. — p. 29-33.