CLINICAL AND IMMUNOLOGICAL FEATURES OF THE COURSE OF BRONCHIAL ASTHMA WITH PERSISTENCE OF CYTOMEGALOVIRUS IN CHILDREN

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Annotation

Currently, there is a steady increase in the prevalence of bronchial asthma. According to the latest All-Russian medical examination conducted in 2022, the incidence of this disease in ten years in the group of children under 14 years of age has increased more than threefold, and in adolescents over 15 years of age - more than 13 times. In this regard, the treatment of bronchial asthma not only remains a pressing problem in allergology over time, but is also becoming increasingly important. According to modern concepts, bronchial asthma is considered an independent nosological form in which chronic allergic inflammation develops, accompanied by reversible bronchial obstruction and bronchial hyperreactivity. The main mechanism of development of this disease is immunological. Thanks to the achievements of modern pharmacology and allergology, significant progress has been made in the treatment of the main pathological process of bronchial asthma. Over the past decades, the level of relative mortality from bronchial asthma has significantly decreased, the quality of life of patients has improved, and a multiple reduction in the incidence of severe forms of the disease has been achieved.

In recent years, standard international diagnostic criteria and drug therapy methods have been developed that can significantly increase the effectiveness of treatment for patients with bronchial asthma (BA) and improve the quality of life of patients. However, modern drug therapy and monitoring of BA in pregnant women is a more complex task, since it aims not only to preserve the health of the mother, but also to prevent the adverse effects of disease complications and side effects of treatment on the fetus.

In pregnant women, BA is the most common disease of the pulmonary system, the frequency of diagnosis of which in the world fluctuates from 1% to 4%, and in Russia - from 0.4% to 1%. At the same time, pregnancy affects the course of BA in different ways. Changes in the course of the disease fluctuate within a fairly wide range: improvement in 18-69% of women, deterioration in 22-44%, no effect of pregnancy on the course of bronchial asthma was detected in 27-43% of cases. This is explained, on the one hand, by the multidirectional dynamics in patients with varying degrees of bronchial asthma severity (with mild and moderate severity, deterioration in the course of bronchial asthma is observed in 15-22%, improvement in 12-22%), and on the other hand, by insufficient diagnostics and not always correct therapy. In practice, bronchial asthma is often diagnosed only in the late stages of the disease. In addition,

if its onset coincides with the gestational state, the disease may remain unrecognized, since the respiratory disorders observed in this case are often attributed to changes caused by pregnancy. According to Nelson and Weber, poorly controlled bronchial asthma during pregnancy leads to an increase in complications in both the mother and the fetus. It has been established that women suffering from uncompensated bronchial asthma have an increased risk of obstetric complications. Pregnant women with bronchial asthma are more likely to experience intrauterine fetal pathology and various complications in the early neonatal period. At the same time, with adequate therapy of bronchial asthma, the risk of an adverse outcome of pregnancy and childbirth is not higher than in healthy women. Therefore, most authors do not consider bronchial asthma as a contraindication to pregnancy, and control over its course should be ensured using modern treatment principles set out in the Recommendations of the Working Group on the Management of Bronchial Asthma during Pregnancy within the National Educational Program of the European Respiratory Society. At the same time, the existing outdated methods of pharmacotherapy, unfortunately, often used in practice to control bronchial asthma, are so aggressive that women are still recommended to terminate pregnancy. Bronchial asthma is one of the diseases associated with sleep disorders. With the onset of pregnancy, sleep changes in most women, which is due, on the one hand, to changes in the biomechanics of breathing, and on the other, to hormonal changes. At the same time, in pregnant women with concomitant bronchial asthma, when the progesterone level is not protective, hypoxemia is not uncommon. In this case, even a slight decrease in oxygenation in the mother can lead to fetal hypoxia. Thus, studying the characteristics of sleep disorders in pregnant women with asthma and their correction will optimize the management of this category of patients.

Objective of the study: To study the clinical and immunological features of the course of bronchial asthma in children excreting cytomegalovirus DNA with sputum, and to justify the inclusion of a drug that stops the replication of cytomegalovirus in the bronchi in the complex therapy of bronchial asthma.

Research objectives: To assess the frequency of detection of cytomegalovirus DNA in sputum and antibodies to it in the blood serum of children with bronchial asthma. To identify the features of the clinical course of bronchial asthma in children with the isolation of cytomegalovirus DNA with sputum.

Results of the study: Since the effect of cytomegalovirus on the course of bronchial asthma has not been proven to date, its treatment with specific antiviral agents has not been carried

out either. However, there are treatment regimens used in other situations, for example, in congenital cytomegalovirus infection. For its treatment, both antiviral drugs are used: ganciclovir, foscarnet [9,10], and specific immunoglobulins with a high titer of antibodies against cytomegalovirus. First of all, this concerns the drug "Cytotec", which has been successfully used in pediatric practice, including for the treatment of newborns with intrauterine infection. Due to high toxicity and complex administration regimens, ganciclovir and foscarnet can only be used in severe cases that pose a threat to the child's life. Therefore, immunoglobulins with a high titer of antibodies against cytomegalovirus, including domestic manufacturers, are preferable for stopping the replication of cytomegalovirus in the bronchi of children with bronchial asthma. When using immunoglobulins as monotherapy, not only clinical improvement, relief of viremia, viruria and the disappearance of specific IgM in the blood occurs, but also a significant improvement in immunity indicators. Based on the above, there is an obvious need for a thorough study of the effect of cytomegalovirus on the course of bronchial asthma, studying the characteristics of the immune system in such children and justifying the inclusion of drugs in the complex treatment that specifically stop the replication of cytomegalovirus in the bronchi.

Respiratory diseases, being one of the most common chronic diseases in children and adults, are considered in modern society as a major medical and social problem. They acquire particular significance in the conditions of Transbaikalia, where there is a combination of a sharply continental climate, high levels of solar radiation, an imbalance of trace elements, high air pollution, and the development of the predominantly mining industry, which significantly affects the course of pathological conditions.

Among respiratory diseases, bronchial asthma occupies a leading place, causing frequent disability in children and significantly reducing the quality of life of a sick child. Despite the successes achieved in recent years in the diagnosis, therapy and prevention of this disease, thanks to the widespread introduction of international and national consensus documents, many aspects of bronchial asthma in children remain insufficiently clear and real clinical practice is far from perfect. Today, according to official statistics, severe bronchial asthma is observed in 5-10% of children, in some patients the disease cannot be corrected by modern anti-asthma drugs, and in some regions of Russia there are still fatal outcomes. In this regard, studies aimed at studying the prevalence of this disease in children in various regions, where, according to official statistics, a significant number of children suffering from bronchial asthma are registered, remain relevant.

The study of various links in the pathogenesis of bronchial asthma has not lost its relevance. The attention of many specialists is focused on deciphering the immunological mechanisms of bronchial asthma in children. However, despite numerous works in this area, many issues

remain unresolved. In addition, the role of the pituitary-thyroid and pituitary-adrenal systems in the mechanisms of bronchial obstruction development, as well as membrane-destructive processes that lead to destabilization of cell membranes, activation of lipid peroxidation, and disturbance of microelement metabolism have not been sufficiently studied to date. The literature does not sufficiently cover data on lipid peroxidation processes in children with bronchial asthma; there are no studies on the study of LPO processes in children depending on age, severity of the disease, impact of environmental factors, and place of residence of the sick child. The study of these aspects of bronchial asthma in children of Transbaikalia determines the relevance of the study.

Conclusions:

In patients with bronchial asthma, there is a frequent occurrence of cytomegalovirus in the bronchi, confirmed by the detection of DNA in sputum (39.8%), the detection of immunoglobulins of class M (3.6%) and O (52.8%) in the blood serum.

List of references:

1. Choi, J. W., Salomova, F. I., Razikova, I. S., Mirraximova, M. H., Ibragimova, S. A., & Yunusjanovna, N. N. (2020). The prevalence of symptoms of allergic diseasesin children residing in industrialregions of Uzbekistan. International Journal of Psychosocial Rehabilitation, 24(4), 2105-2115.
2. DS, K. (2022). PREVALENCE OF ALLERGIC DISEASES IN CHILDREN UNDER HOT CLIMATIC CONDITIONS. In Materials of International Scientific-Practical Conference. «Only English: Topical Issues of Healthcare.
3. Ibodullaevna, S. F., Rustamovna, K. S., Gairatovna, A. D., & Abdurakhmonovna, S. H. (2022). PREVALENCE AND RISK FACTORS OF ALLERGIC DISEASES IN CHILDREN IN HOT CLIMATIC CONDITIONS. Art of Medicine. International Medical Scientific Journal, 2(3).
4. Imamova, A. O., & Toshmatova, G. O. (2023). Protecting works and hygienic assessment of nutrition of preschool children in Tashkent. European International Journal of Multidisciplinary Research and Management Studies, 3(02), 47-50.
5. Imamova, A. O., Salomova, F. I., Axmadalieva NO, N. D., Toshmatova, G. A., & Sharipova, S. A. (2022). Ways to optimize the formation of the principles of a healthy lifestyle of children. American Journal of Medicine and Medical Sciences, 12(6), 606-608.
6. Jalolov, N. N., & Imamova, A. O. (2023). The Role of Nutrition in the Management of Chronic Hepatitis. European International Journal of multidisciplinary research and management studies, 3(02), 28-34.

7. Jalolov, N. N., Sobirov, O. G., Kabilzhonova, S. R., & Imamova, A. O. (2023). The role of a healthy lifestyle in the prevention of myocardial infarction. Neo Sci Peer Rev J, 9, 8-14.
8. Jalolov, N. N., Sultonov, E. Y., Imamova, A. O., & Oblokulov, A. G. (2023). Main factors of overweight and obesity in children. Science Promotion, 1(2), 2-4.
9. Khobiljonova, S. H. THE ROLE OF SPORTS IN THE FORMATION OF A HEALTHY LIFESTYLE AMONG YOUNG PEOPLE Yuldasheva FU Tashkent Medical Academy, Uzbekistan Imamova AO.
10. Kobiljonova, S. R., & Jalolov, N. N. (2023). Reproductive and perinatal outcomes born by caesarean section.
11. Kobiljonova, S. R., Jalolov, N. N., Sharipova, S. A., & Mirsagatova, M. R. (2022). COMBINED SKIN AND RESPIRATORY MANIFESTATIONS OF FOOD ALLERGY IN CHILDREN.
12. Kobiljonova, S. R., Jalolov, N. N., Sharipova, S. A., & Tashmatova, G. A. (2023). Clinical and morphological features of gastroduodenitis in children with saline diathesis. American Journal of Pedagogical and Educational Research, 10, 35-41.
13. Kobiljonova, S. R., Jalolov, N. N., Sharipova, S. A., & Tashmatova, G. A. (2023). Clinical and morphological features of gastroduodenitis in children with saline diathesis. American Journal of Pedagogical and Educational Research, 10, 35-41.
14. Kobiljonova, S., Sultonov, E., Sultonova, D., Oblokulov, A., & Jalolov, N. (2023). CLINICAL MANIFESTATIONS OF GASTROINTESTINAL FOOD ALLERGY. Евразийский журнал медицинских и естественных наук, 3(5), 142-148.
15. Niyazova, O. A., & Imamova, A. O. (2023). Improving the organization of the provision of medical services and the Digital environment. European International Journal of Multidisciplinary Research and Management Studies, 3(02), 41-46.
16. Sadullayeva, X. A., Salomova, F. I., & Mirsagatova, M. R. (2023). Problems of Pollution of Reservoirs in the Conditions of Uzbekistan. Miasto Przyszłości, 33, 102-106.
17. Salomova, F. I. (2022, November). Formation of the principles of a healthy lifestyle in preschool children. In Uzbekistan-Japan International Conference «Energy-Earth-Environment-Engineering.
18. Salomova, F. I. (2022, November). Problems of atmospheric air pollution in the Republic of Uzbekistan and the ways of their solution. In Uzbekistan-Japan International Conference «Energy-Earth-Environment-Engineering.
19. Salomova, F. I., Mirrakhimova, M. K., & Kobilzhonova, S. R. (2022). Influence of environmental factors on the development of atopic dermatitis in children. In European journal of science archives conferences series.

20. Salomova, F. I., Rakhimov, B. B., Jalolov, N. N., Sultonov, E. Y., & Oblakulov, A. G. (2023). Atmospheric air of the city of Navoi: quality assessment. British Journal of Global Ecology and Sustainable Development, 15, 121-125.
21. Salomova, F. I., Sharipova, S. A., Toshmatova, G. O., Yarmukhamedova, N. F., Mirsagatova, M. R., & Akhmadalieva, N. O. (2020). Psychoemotional state of the universities' teaching staff in Uzbekistan. Indian Journal of Forensic Medicine and Toxicology, 14(4), 7984-7994.
22. Salomova, F., Akhmadalieva, N., Sadullayeva Kh, A., Imamova, A., & Nigmatullayeva, D. Z. (2023). Hygienic characteristics of the social portrait, conditions and lifestyle of infectious diseases doctors. JournalNX-A Multidisciplinary Peer Reviewed Journal, 9(2), 163-7.
23. Salomova, F., Sadullaeva, K., Samigova, N., & Sadirova, M. (2022). Study of regional features of dynamics of acute intestinal diseases in the Republic of Karakalpakstan (Livorno, Italy конф.). Diss. Livorno, Italy.
24. Salomova, F., Sadullayeva, H., Sherkuzieva, G., & Yarmuhamedova, N. F. (2020). State of atmospheric air in the republic of Uzbekistan. Central Asian Journal of Medicine, 2020(1), 131-147.
25. ShR, K., Mirrakhimova, M. H., & Sadullaeva, H. A. (2022). Prevalence and risk factors of bronchial asthma in children. Journal of Theoretical and Clinical Medicine, 2, 51-56.
26. Yarmukhamedova, N. F., Matkarimova, D. S., Bakieva, S. K., & Salomova, F. I. (2021). Features of the frequency of distribution of alleles and genotypes of polymorphisms of the gene Tnf-A (G-308a) in patients with rhinosinusitis and the assessment of their role in the development of this pathology. International Journal of Health and Medical Sciences, 4(1), 164-168.
27. Yaxyoyevich, Z. S., & Husanovna, T. M. (2024). Chronic Liver Diseases And Humoral Factors Of Immunity.
28. Ахмадалиева, Н. О., Саломова, Ф. И., Садуллаева, Х. А., Шарипова, С. А., & Хабибуллаев, С. Ш. (2021). Заболеваемость преподавательского состава ВУЗа технического профиля. Oriental renaissance: Innovative, educational, natural and social sciences, 1(10), 860-871.
29. Жалолов, Н. Н., Нуриддинова, З. И., Кобилжонова, Ш. Р., & Имамова, А. О. (2022). Главные факторы развития избыточного веса и ожирения у детей (Doctoral dissertation, Doctoral dissertation, O 'zbekiston Respublikasi Sog 'liqni Saqlash vazirligi, Toshkent tibbiyot akademiyasi, Koryo universiteti "Atrof muhit muhofazasining dolzarb muammolari va inson salomatligi" xalqaro ishtirok bilan Respublika 9-ilmiy-amaliy anjumani materiallari to 'plami 153 bet).

30. Жалолов, Н., Зокирходжаев, Ш. Я., & Саломова, Ф. И. (2022). Сурункали гепатит билан касалланган беморларнинг ҳақиқий овқатланишини баҳолаш.«Тиббиётдаги замонавий илмий тадқиқотлар: долзарб муаммолар, ютуқлар ва инновациялар». In мавзусидаги халқаро илмий-амалий конференция.(2022, May).
31. Кобилжонова, Ш. Р., Жалолов, Н. Н., & Журабоев, М. Т. (2022). Тугри овкатланиш спортчилар юкори натижалари гарови.
32. Кобилжонова, Ш. Р., Миррахимова, М. Х., & Садуллаева, Х. А. (2022). Распространенность и факторы риска бронхиальной астмы у детей. Журнал теоретической и клинической медицины, (2), 51-56.
33. Кобилжонова, Ш. Р., Миррахимова, М. Х., & Садуллаева, Х. А. (2022). Значение экологических факторов при бронхиальной астме у детей.
34. Миррахимова, М. Х., Нишонбоева, Н. Ю., & Кобилжонова, Ш. Р. (2022). Атопик дерматит билан касалланган болаларда панкреатик етишмовчиликни коррекциялаш.
35. Садуллаева, Х. А., Саломова, Ф. И., Мирсагатова, М. Р., & Кобилжонова, С. Р. (2023). Проблемы загрязнения водоемов в условиях Узбекистана.
36. Саломова, Ф. И. (2001). Оценка состояния здоровья и физического развития детей, поступающих в детские дошкольные учреждения. Ж. Патология, (4), 21-23.
37. Саломова, Ф. И. (2008). Особенности физического развития школьников с нарушениями осанки. Вестник Санкт-Петербургской государственной медицинской академии им. ИИ Мечникова, (4), 48-50.
38. Саломова, Ф. И. (2009). Функциональное состояние опорно-двигательного аппарата школьников с нарушениями осанки. Травматология и ортопедия России, (1), 70-73.
39. Саломова, Ф. И. (2009). Характеристика физического развития школьников с нарушениями осанки. Вестник Новосибирского государственного университета. Серия: Биология, клиническая медицина, 7(3), 68-71.
40. Саломова, Ф. И. (2010). Гигиенические основы профилактики нарушений осанки и начальных форм сколиозов у детей и подростков. Автореф. дисс….. докт. мед. наук. Ташкент.
41. Саломова, Ф. И., & Тошматова, Г. О. (2012). Эпидемиология мастопатии и особенности заболеваемости женщин, страдающих мастопатией. Врач-аспирант, 52(3.1), 222-228.
42. Саломова, Ф. И., Садуллаева, Х. А., & Самигова, Н. Р. (2022). Загрязнение атмосферы соединениями азота как этиологический фактор развития СС заболеваний г. ООО" TIBBIYOT NASHRIYOTI MATBAA UYT.

43. Саломова, Ф. И., Садуллаева, Х. А., Миррахимова, М. Х., Кобилжонова, Ш. Р., & Абатова, Н. П. (2023). Загрязнение окружающей среды и состояние здоровья населения. Yosh olimlar tibbiyot jurnali, 1(5), 163-166.
44. Саломова, Ф., Садуллаева, Х., & Кобилжонова, Ш. (2022). Гигиеническая оценка риска развития аллергических заболеваний кожи у детского населения. Актуальные вопросы профилактики стоматологических заболеваний и детской стоматологии, 1(01), 88-91.
45. Шеркузиева, Г. Ф., Саломова, Ф. И., & Юлдашева, Ф. У. (2023). Результаты санитарно-химических исследований воды.
46. Jalolov, N. N., Imamova, A. O., & Sultonov, E. Y. (2023). Proper nutrition of athletes, martial arts. Pridobljeno, 1(8), 2024.
47. Imamova, A. O., Ahmadalieva, N. O., & Bobomurotov, T. A. (2022). Health states of children and ways to optimize the formation of the principles of a healthy lifestyle. Eurasian Medical Research Periodical, 8, 125-128.
48. Bobomuratov, T. A., & Imamova, A. O. K. (2023). Forms and methods for forming a healthy lifestyle in children. Academic research in educational sciences, (1), 19-23.
49. Imamova, A. O., & Soliyeva, L. O. (2022). Hygienic assessment of children's health in the orphanage (Doctoral dissertation,«ОБРАЗОВАНИЕ И НАУКА В XXI ВЕКЕ» Xalqaro ilmiy jurnal).
50. Bobomuratov, T. A., & Imamova, A. O. Q. (2023). MAKTABGACHA YOSHDAGI BOLALAR ORGANIZIMIDA VITAMIN VA MINERALLAR YETISHMASLIGINING AHAMIYATI. Academic research in educational sciences, (1), 24-30.
51. Манер, С.С., Шейх, А.А., Акида, И., и Анвар, О. ГИГИЕНИЧЕСКИЕ АСПЕКТЫ ИСПОЛЬЗОВАНИЯ МЕДИЦИНСКИХ КОЖ.
52. Imamova, A. O. K., Bobomurotov, T. A., & Akhmadaliyeva, N. O. (2023). IMPROVING THE HEALTH STATUS OF FREQUENTLY ILL CHILDREN IN PRE-SCHOOL EDUCATIONAL INSTITUTIONS AND THEIR PRINCIPLES OF HEALTHY LIFESTYLE. Academic research in educational sciences, 4(TMA Conference), 180-185.
53. Salomova, F. I., Imamova, A. O., Mirshina, O. P., & Voronina, N. V. (2023). HYGIENIC ASSESSMENT OF THE CONDITIONS OF WATER USE OF THE POPULATION OF THE ARAL REGION. Academic research in educational sciences, 4(TMA Conference), 968-973.
54. Ахмадалиева, НО, Саломова, ФИ, Садуллаева, КА, Абдукадирова, ЛК и Имамова, АО (2024). ИЗЪЯТО: Питание часто болеющих детей дошкольного возраста в организованных коллективах. В BIO Web of Conferences (т. 84, стр. 01011). EDP Sciences.