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SENSITIZATION TO FOOD ALLERGENS OF PLANT ORIGIN IN PATIENTS WITH HIGH FEVER

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Abstract
In recent decades, there has been a steady increase in the number of allergic diseases. In the structure of allergic pathology, diseases caused by sensitization to pollen allergens account for up to 26%. Children and young people most often suffer from pollinosis, which is a serious problem for modern health care. Allergic reactions to plant-based foods are detected in 40-70% of patients with pollinosis. The immunopathological basis of this phenomenon is cross-reactivity between pollen and plant food allergens. This leads to a sharp restriction of the diet of patients, mainly due to the exclusion of plant foods. Descriptions of cases of severe anaphylactic reactions to vegetables, fruits and nuts regularly appear in the literature. In recent decades, the diet of residents of the central zone of Uzbekistan has undergone significant changes: the consumption of exotic fruits and vegetables, soy, peanuts and products containing them has increased. Diagnosis of reactions to food allergens of plant origin is complicated by the presence of false-negative tests caused by the use of non-standardized and unstable commercial allergen extracts, and false-positive tests associated with the phenomenon of cross-reactivity. In connection with the above, it is relevant to study the spectrum of the most important plant allergens that cause sensitization in patients with hay fever, as well as to improve the methods of diagnosing food allergies and to introduce new easily reproducible and clinically significant tests into practice. Of great interest is the problem of the relationship between the concentration of pollen in the air and clinical and immunological indicators of allergy. Monitoring the concentration of pollen grains in the atmospheric air, which has been carried out in Tashkent in recent years, allows us to carry out such a study. Objective signs of inflammation of the mucous membrane of the respiratory tract are an increase in the number of eosinophils in the nasal secretion and an increase in the concentration of nitric oxide in the exhaled air. Studying the dynamics of fluctuations in the values of these indicators in allergic processes allows us to obtain additional data for an objective assessment of the immunological reactivity of patients and the severity of the disease.

Introduction

Study Objective:

To determine the structure of sensitization in patients with pollinosis, to identify clinical features of reactions to plant allergens and to assess the effect of the concentration of pollen allergens in the atmosphere on the severity of manifestations of pollinosis.

Research Methods

1. To identify the spectrum of pollen and food allergens of plants that cause sensitization in patients with pollinosis and to assess the clinical features of the manifestation of this pathology.
2. To provide a comparative description of the diagnostic information content of various methods of skin testing and determination of IgE antibodies (IgE-AT) in serum used to detect sensitization to food allergens of plant origin in patients with pollinosis.
3. To study the effect of tree pollen exposure on clinical manifestations of hay fever, the content of eosinophils in nasal secretions, and the total concentration of nitrates and nitrites (TCN) in exhaled air condensate (EAC).

Results of the Study:

A comparative analysis of the diagnostic significance of various methods for detecting sensitization of patients with hay fever to plant-based food allergens was performed. It was shown that the most informative method was the determination of serum IgE-AT; the prick-prick test (PPT) was significantly more sensitive than the prick test and was not inferior to it in specificity. For the first time, monitoring of nasal secretion cytology was conducted in patients with hay fever and it was found that the concentration of tree pollen in the atmosphere correlates with the severity of allergic rhinoconjunctivitis and eosinophilia of nasal secretions. The effect of tree pollen exposure on the concentration of nitric oxide metabolites in exhaled air in patients with hay fever is shown. Allergic diseases are an important medical and social problem. The prevalence of various manifestations of allergy is extremely high in all countries and increases every year. According to many epidemiological studies conducted in different countries, there is a constantly progressive increase in the incidence of allergies. According to WHO, up to 40% of the world's population have some signs of atopy. Currently, the number of patients with combined pathology is increasing. Atopic diseases are characterized by comorbidity, which aggravates the severity of manifestation. The continuing increase in the number of patients with atopy, the severity of disease symptoms, a significant decrease in the quality of life of patients of all ages, a negative impact on performance, learning and development of children, lead to serious economic costs associated with the disease. One of the leading places in the structure of allergic diseases is occupied by allergic rhinitis. According to various sources, from 10 to 40% of the population suffers from it in different countries of the world. Allergic rhinitis is often combined with allergic conjunctivitis. The highest prevalence of both nasal and eye symptoms is observed with pollen allergy (hay fever). In the Tashkent region, pollen allergy in the structure of appeals for allergic diseases ranges from 20 to 60%. However, epidemiological studies aimed at identifying patients who simultaneously suffer from nasal and eye symptoms with different types of pollen allergy have not been conducted over the past two decades. At present, in the Tashkent region, despite numerous publications, there are few reports on well-organized epidemiological studies taking into account the new classification of allergic rhinitis and conjunctivitis proposed in the International ARIA document (Allergic Rhinitis and its Impact on Asthma). The results of clinical and epidemiological studies are not always -correctly -interpreted, which leads to

unjustified hyper- or hypodiagnosis. All of the above dictates the need to study the detailed characteristics of the situation based on newly obtained data. Today it is becoming clear that allergic rhinoconjunctivitis in the physical, psychological and social aspects of patients' lives is the cause of a decrease in the quality of life, leads to problems in learning and sleep disorders, work losses, significant socio-economic damage, and a pronounced decrease in the level of health of the population. Although pollen allergy is a priority regional area of scientific research in the Tashkent region, nevertheless, in recent years there have been significant changes in the nature of the pathology, which requires additional analysis.

In modern climatic and geographical conditions, the species composition of plants, their flowering calendar, and pollen allergenicity have changed, which requires clinical and epidemiological studies based on the principles of evidence-based medicine. High concentrations of pollen in the air, as well as a long period of plant palination lead to the appearance of severe persistent forms of the disease with the involvement of various organs and systems, requiring the simultaneous use of many drugs and changes in the usual approaches to the treatment of pathology.

Conclusions

1. In the examined patients with pollinosis, the peculiarity of the sensitization structure is the dominant role of tree pollen allergens (in (82.5-97.50) % according to various diagnostic methods).
2. The clinical features of pollinosis are: - the presence of symptoms of food allergy to plant products in 61.63% of children and 65.43% of adult patients; (most often when eating apples, nuts, honey, carrots, peaches, kiwi); - the presence of polyvalent sensitization; - the presence of symptoms of bronchial asthma in 51.85% of adults and 25.79% of children ($p<0.01$);
3. The sensitivity of the developed modification of the PPT with native food products exceeds the sensitivity of the prick test with commercial allergens (66.67% and 39.67%, respectively), and is not significantly inferior in this indicator to the standard method for detecting IgE-AT.
4. IgE-AT to allergens Bet v 1 and Bet v 2 are detected in the sera of 64.0% of patients with pollinosis with clinical manifestations of allergy to birch pollen. The presence of IgE-AT to Bet v 1 and Bet v 2 correlates with signs of polyvalent sensitization ($p < 0.01$)
5. The content of eosinophils in the nasal secretion of patients with pollinosis and the severity of clinical manifestations of rhinoconjunctivitis in 62.5% of cases correlates with the concentration of pollen in the air.
6. Provocation with a solution of pollen allergens during NPT in patients with hay fever outside the pollen season causes a significant increase in the content of eosinophils in nasal secretions from (7.46±3.54) % to (29.89±5.83) %.

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.

Web of Scientists and Scholars: Journal of Multidisciplinary Research

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.