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DYNAMIC CHANGES IN THE INDICES OF PATIENTS WITH ALLERGODERMATOSES

Akhmedov J.Kh.
Alfraganus University
Department of Clinical Subjects
Department of Faculty Orthopedic Dentistry
Tashkent State Dental Institute

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Abstract:

According to modern concepts, the fundamental pathogenetic mechanism of allergodermatoses is the presence of systemic allergic inflammation with active manifestation on the skin. Allergy is a pathological form of immune system response, resulting in damage to the body's own cells and tissues. In the realisation of allergic response in skin diseases great importance is attached to reactive reactions and disorders in cell-mediated immunity.

Keywords: Allergodermatoses, antibodies, immunological reaction, inflammatory response to the skin.

INTRODUCTION. Allergodermatoses are characterised by congenital hypersensitivity to many environmental factors and the ability to form reactive (IgE) antibodies. Atopy, an inherited form of allergy, is based on a programmed immune response to the allergen, which is characterised by stimulation of Th2-population of lymphocytes, hyperproduction of allergen-specific IgE antibodies, degranulation of mast cells, eosinophilic infiltration, leading to chronic inflammation in the skin and pruritus. In patients with atopic dermatitis, a sharp increase in total immunoglobulin E is detected, which includes both antigen-specific IgE-antibodies to various antigens and IgE molecules. In childhood, antigen-specific IgE antibodies to food antigens predominate, and in older age, to pollen, household, epidermal, bacterial, viral and fungal allergens[3,8]. Recently, following the discovery of the Th1/Th2 paradigm by Mosmann, new data on the immunological mechanisms of the pathogenesis of atopic dermatitis have been obtained. Until recently, this disease was considered only as a Th2-dependent process[5,9]. However, the involvement of cytokines produced by Th1-lymphocytes in the pathogenesis of atopic dermatitis has now been proven. In particular, the presence of If-g reactions of Th1-type in the pathogenesis of atopic dermatitis is beyond doubt. Increased production of this cytokine is observed in 80% of patients, correlates with the severity of the disease and decreases with successful treatment. The peculiarity of morphology of skin lesions in atopic dermatitis makes us assume that other types of hypersensitivity reactions are realised in this disease[6,10]. There may be immediate reactions in the form of cytotoxic, immunocomplex, granulocyte-IgG-mediated, as well as delayed, T-cell reactions. This form of hypersensitivity is observed in many allergodermatoses, in particular in allergic dermatitis, eczema. In the development of delayed-type hypersensitivity (DHT), the main role is played by T-lymphocytes (mainly represented by the Th1 population of lymphocytes), carrying on their surface specific receptors to the antigen. In this type of reactions immune T-lymphocytes in interaction with the antigen-allergen release a number of pro-inflammatory cytokines: IL-1, IL-2, TNF, g-interferon[8,11]. This leads to the initiation of inflammation, release of biologically active substances (prostaglandins, leukotrienes, histamine, tryptase), which causes the development of tissue reactions of inflammation: in the form of vascular dilation and damage, plasma exudation, which clinically manifests as hyperaemia, swelling and itching (early allergic response). Another effect of proinflammatory cytokines is the induction of adhesion molecule expression on leukocytes and endothelial cells, which results in the influx of leukocytes from the vascular bed into the inflammatory focus by their transendothelial migration [7,12]. Further promotion and accumulation of immunocompetent cells in the focus of inflammation is controlled by chemokines, which are produced by macrophages and endothelial cells. Recruitment of neutrophils, eosinophils, and macrophages to the site of allergic reaction forms a cellular infiltrate in the focus of inflammation, which contributes to the further development of allergic inflammation (late allergic response). Thus, T-lymphocytes (T-helper-Th1 subpopulation), macrophages, endothelial cells and cytokines secreted by them are involved in type IV allergic reactions [1,13].

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PURPOSE OF THE STUDY: to investigate dynamic changes in the parameters of patients with allergodermatoses

MATERIALS AND METHODS OF RESEARCH: During 2021-2023 at the Republican Allergy Centre we conducted retrospective studies among patients with allergodermatoses who had concomitant diseases such as diabetes mellitus, chronic diseases of gastrointestinal tract and ENT organs. Third-trimester pregnant patients with allergodermatoses were also included in the studies.

In the examination of 175 patients, 142 women and 33 men, comparative analyses were made by sex, age category, and etiological factor of allergodermatoses.

RESULTS OF THE STUDY. Previously, we conducted a retrospective analysis of 3822 case histories of patients who received outpatient and inpatient treatment at the Republican Scientific and Specialised Allergy Centre in the period from 2020 to 2023. The study of changes in the distribution of allergic patients by sex revealed that in 2021, out of 1547 patients, 54.4% were women and 45.6% of patients were men. In 2022, out of 1816 patients, 58.8% of patients were women and 41.2% of patients were men. In 2023, of the 459 case histories analysed, it was noted that women accounted for 61% of patients and men 39% (Table 1.).

Examination of the changes in the age composition of patients by year showed that in 2021, patients aged 60 years and above had the lowest rate of 7.71% and those under 30 years of age had the lowest rate of 11.56%. Patients in the age category of 41-50 years were 27.85% and the highest rate was in the age group of 51-60 years with 37.15% of the total number of patients with allergic diseases (Table 1.).

In 2022, changes in the age composition of patients with allergic diseases were characterised by an increase in the rates of patients under 30 years of age to 27.85%; in the age of 31-40 years to 28.25%; and, in part, in the rates of patients 60 years and older to 9.66%. At the same time, there was a decrease in the rates of patients aged 41-50 years to 20.15% and those aged 51-60 years to 14.11% (Table 1).

In 2023, among patients with allergic diseases, patients aged 31-40 years had the highest specific weights, 24.3%; patients aged 30 years, 22.95%; and patients aged 41-50 years, 22.2%. The proportion of patients aged 51-60 years and over 60 years was significantly low - 18.6% and 11.9%, respectively (Table 1).

Table 1
Dynamics of changes in the age and sex composition of patients with allergic diseases in the period from 2021 to 2023.

Age groups		Dynamics of changes in the age and sex composition of patients with allergic diseases by years (in % of the total number of patients)					
		2021 y. (n=1547)		2022 y. (n=1816)		2023y. (n=459)	
		Abs	**%**	Abs	**%**	Abs	**%**
Age	Up to 30 years old	179	11,56	506	27,85	105	22,95
	31-40	244	15,8	513	28,25	111	24,3
	41-50	430	27,85	366	20,15	102	22,2
	51-60	575	37,15	256	14,11	85	18,6
	60 and over	119	7,71	175	9,66	55	11,9
Gender	Men	705	45,6	748	41.2	179	39,0
	Women	842	54,4	1068	58,8	280	61,0

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The study of the dynamics of changes in the specific weight of nosological forms of allergic diseases for the period from 2021 to 2023 revealed the following. Of all nosological forms of allergic diseases, the highest specific weight by years was bronchial asthma - 58.5%, 49.0% and 48.3%; food allergy - 17.3%, 23.17% and 14.6%; drug allergy - 9.3%, 14.2% and 9.8%. Allergic diseases acute urticaria + Quincke's oedema had a relatively low specific weight - 5.23%; 5.4% and 3.7% (respectively by year). The share of other allergic diseases was not significant. In the dynamics of the study from 2021 to 2023, no regular changes in the specific weight of nosological forms of the main allergic diseases were found, but only a slight increase in the specific weight of acute giant urticaria, which was 0.96% in 2021, 1.1% in 2023 and 4.35% in 2023.
So, the retrospective analysis of medical records of patients with allergic diseases allowed us to establish that the dynamics of changes in the sex composition of patients with allergic diseases for the period from 2021 to 2023 is characterised by a stable trend of growth in the proportion of female patients and a decrease in the proportion of male patients.

The dynamics of changes in the age structure of patients with allergic diseases is characterised by a significant increase in the specific weight of patients under 30 years of age and at the age of 31-40 years, at the same time there is a significant decrease in the specific weight of patients at the age of 41-50 years and 51-60 years. This indicates that the age structure of patients with allergic diseases is undergoing a significant 'rejuvenation'. In our Republic, of all nosological forms of allergic diseases, bronchial asthma, food allergy and drug allergy have the greatest specific weight, the indicators of which did not undergo any regular changes for the period from 2021 to 2023.

CONCLUSIONS: Carrying out regular retrospective analysis in the Republican Allergological Centre will make it possible to assess an objective picture of the development of allergological diseases and sex. The results of retrospective data can be a criterion for diagnosis, differential diagnosis, prevention and treatment of allergodermatoses. The retrospective results obtained indicate the need for further studies to identify priority allergic risk factors for planning and organisation of specialised medical care among the population.

LITERATURE

1. .Tamrazova O.B., Taganov A.V., Revyakina V.A. Predictors of severe course of atopic dermatitis. Voprosy Pitaniia. 2022;91(1):76–85
2. Siegfried E.C., Jaworski J.C., Kaiser J.D., Hebert A.A. Systematic review of published trials: long-term safety of topical corticosteroids and topical calcineurin inhibitors in pediatric patients with atopic dermatitis. BMC Pediatr. 2016;(16):75.
3. . Mancini A.J., Kaulback K., Chamlin S.L. The socioeconomic impact of atopic dermatitis in the United States: a systematic review. Pediatr Dermatol. 2008;25(1):1–6.
4. . Kim J.P., Chao L.X., Simpson E.L., Silverberg J.I. Persistence of atopic dermatitis (AD): a systematic review and meta-analysis. J Am Acad Dermatol. 2016;75(4):681–687.
5. Boguniewicz M., Fonacier L., Guttman-Yassky E., Ong P.Y., Silverberg J., Farrar J.R. Atopic dermatitis yardstick: practical recommendations for an evolving therapeutic landscape. Ann Allergy Asthma Immunol. 2018;120(1):10–22.e2.
6. . Sayaseng K.Y., Vernon P. Pathophysiology and management of mild to moderate pediatric atopic dermatitis. J Pediatr Health Care. 2018;32(2):S2–S12.
7. . Pustišek N., Živković M.V., Šitum M. Quality of life in fami lies with children with atopic dermatitis. Pediatr Dermatol. 2016;33(1):28–32
8. . Kuo I.H., Yoshida T., De Benedetto A., Beck L.A. The cutaneous innate immune response in patients with atopic dermatitis. J Allergy Clin Immunol. 2013;131(2):266–278..
9. Boguniewicz M., Leung D.Y.M. Atopic dermatitis: a disease of altered skin barrier and immune dysregulation. Immunol Rev. 2011;242(1):233–246.
10. Irvine A.D., Mclean W.H.I., Leung D.Y.M. Filaggrin mutations associated with skin and allergic diseases. N Engl J Med. 2011;365(14):1315–1327.
11. Wollenberg A., Barbarot S., Bieber T., Christen-Zaech S., Deleuran M., Fink-Wagner A. et al. Global Allergy and Asthma European Network (GA2LEN) and the European Union of Medical Specialists (UEMS) Consensus-based European guidelines for treatment of atopic eczema (atopic dermatitis) in adults and children: Part I. J Eur Acad Dermatol Venereol. 2018;32(5):657–682.
12. Eichenfield L.F., Tom W.L., Berger T.G., Krol A., Paller A.S., Schwarzenberg K. et al. Guidelines of care for the management of atopic dermatitis: Section 2. Management and

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ISSN: 2749-3644

treatment of atopic dermatitis with topical therapies. J Am Acad Dermatol. 2014;71(1):116–132.
13. Kapur S., Watson W., Carr S. Atopic dermatitis. Allergy Asthma Clin Immunol. 2018;14(2):52.
14. Rathi S.K., D'Souza P. Rational and ethical use of topical corticosteroids based on safety and efficacy. Indian J Dermatol. 2012;57(4):251–259.
15. Hughes J., Rustin M. Corticosteroids. Clin Dermatol. 1997;15(5):715–721. https://doi.org/10.1016/s0738-081x(97)00020-5. 16. Charman C.R., Morris A.D., Williams H.C. Topical corticosteroid phobia in patients with atopic eczema. Br J Dermatol. 2000;142(5):931–936.