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A LITERATURE REVIEW ON THE CURRENT STATE-OF-THE-ART METHODS IN THE TREATMENT OF ATYPICAL DERMATITIS

[1]Latipov Ikhtiyor Ikromovich,
[2]Rakhimov Otabek Khujamberdiyevich
[1]Bukhara State Medical Institute, Republican Specialized Scientific and Practical Medical Center for Dermatology and Cosmetology Bukhara branch
[2]Head of the Department of Dermatovenereology at the Karshi Military Hospital.

Abstract. The problem of atopic dermatitis is becoming increasingly important in modern medicine. In the structure of allergic diseases in children, atopic dermatitis occupies one of the leading places in terms of its prevalence. However, many issues of this problem still remain unresolved. The article presents a review of the literature of domestic and foreign authors, summarizing modern ideas about the classification, approaches to the treatment and prevention of atopic dermatitis.

Keywords. atopic dermatitis, children, dermatit, systematize literature.

The problem of allergic skin lesions in children is currently one of the most pressing in the practice of pediatricians. Among allergic skin diseases in children, one of the leading places is occupied by atopic dermatitis, the prevalence of which, according to epidemiological studies, ranges from 17 to 25% [6].

A large number of epidemiological studies indicate a higher incidence of allergic diseases in cities compared to rural areas, as well as in economically developed countries compared to developing countries.

The high prevalence of atopic dermatitis in the pediatric population, the further increase in its severe forms, the tendency to chronicity, and insufficiently studied medical, biological and social hygienic factors of development determine the relevance of this problem.

The purpose of this publication is to review and systematize literature data on the development of modern ideas about atopic dermatitis in childhood.

Atopic dermatitis is a chronic allergic disease that develops in individuals with a genetic predisposition to atopy, has a relapsing course with age-related characteristics of clinical manifestations and is characterized by exudative and (or) lichenoid rashes, increased levels of serum IgE and hypersensitivity to specific and nonspecific irritants.

In the development of atopic dermatitis in children, endogenous and exogenous risk factors should be distinguished:

Endogenous:

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1) heredity;
2) atopy;
3) skin hyperreactivity.

I. Exogenous:

1) triggers:

• non-allergenic (psycho-emotional stress, changes in weather conditions, tobacco smoke, food additives, pollutants, xenobiotics);

• allergens (food, household, epidermal, fungal, bacterial, vaccine);

2) exacerbating factors for triggers:

•climate;
•eating disorder;
•violation of skin care rules;
•vaccination;
•psycho-emotional stress;
• acute respiratory viral infections.

Hereditary predisposition is the main factor in the formation of atopic diseases. It has been proven that atopic dermatitis develops in 81% of children in whom both parents suffer from atopic disease, and in 56% if one of the parents (especially the mother) is sick [2].

A number of factors can predispose to the development of atopic dermatitis, - starting from the antenatal period of fetal development. Thus, a high level of allergenic exposure of the mother and fetus, an infection suffered during pregnancy (usually viral), a complicated course of pregnancy and the associated increase in the permeability of the placental barrier to antigens, occupational hazards and smoking contribute to the implementation of the genetically programmed differentiation of ^0 cells into ^2 -lymphocytes with subsequent hyperproduction of Ig E.

The contribution of functional disorders of the central nervous system is pathogenetically significant. These patients show weakness and pathological inertia of irritative and inhibitory processes, as well as a decrease in the mobility of cortical processes. At the same time, there is a direct relationship between the severity of the skin process and functional disorders of the nervous system.

In early childhood, disturbances in nutrition, digestion and absorption are of great importance. Sensitization to food allergens is facilitated by the anatomical and physiological characteristics of the child's body: functional immaturity of the digestive organs, well-developed vascularization of the mucous membrane of the gastrointestinal tract, lack of local immunity - all this contributes to the penetration of undigested macromolecules into the child's bloodstream.

Recognition of the allergic (immunological) concept of the development of atopic dermatitis served as the reason for a comprehensive study of its immune mechanisms,

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especially IgE-mediated reactions. A study of the concentrations of total and specific IgE antibodies in children with atopic dermatitis showed that in 85.5% of them the levels of total IgE significantly exceeded those of healthy children.

Thus, in the pathogenesis of atopic dermatitis, an important place belongs to immunological mechanisms, changes in regulation at the level of cytokines, which determine the specificity of the mechanisms of development of this disease and, therefore, studies aimed at elucidating the extent of these disorders and searching for methods for drug correction of the observed changes are of particular relevance. .

Currently, there is no official generally accepted classification of atopic dermatitis. Based on many years of clinical observations, studies of etiology and available morphological data, V.A. Revyakina, I.I. Balabolkin, L.S. Namazova et al. (1998) developed a working classification of atopic dermatitis in children [1].

Working classification of atopic dermatitis in children

I. According to clinical and morphological form:

1) exudative;
2) proliferative;
3) mixed.

II. In shape depending on age:

1) infant - from 2 months to 3 years;
2) children's - from 3 to 12 years;
3) teenage - from 12 years old.

III. According to the clinical and etiological variant:

1) with food allergies;
2) with household sensitization;
3) with tick allergy;
4) with fungal allergies;
5) with pollen sensitization;
6) with polyvalent sensitization.

IV. By prevalence:

1) common;
2) local.

V. By stage of development:

1) initial;
2) the formation of pathological changes in the skin;
3) remission (recovery).

VI. According to severity:

1) lung;
2) average;
3) heavy.

ISSN 2181-3187

VII. According to the period of the disease:

1) spicy;

2) subacute;

3) remission.

VIII. According to accompanying manifestations:

1) skin;

2) extracutaneous.

The initial stage of the disease is reversible provided that treatment is started in a timely manner with appropriate elimination measures and the appointment of a hypoallergenic diet. It is at this stage of the disease that it is easiest to reverse the development of skin rashes. Untimely and inadequate treatment of skin manifestations leads to the transition of the initial stage of the disease to the stage of pronounced pathological changes in the skin with typical morphological elements. The clinical manifestations of atopic dermatitis at this stage are quite diverse, which is reflected in a more detailed (compared to the above) classification [3].

The exudative form is characterized by facial hyperemia, swelling, exudation (wetting), and crust formation. In the future, rashes may appear on the skin of the outer surface of the legs, forearms, on the torso, and buttocks. Red or mixed dermographism is characteristic. There is itching of the skin of varying intensity. This form is more common in children of the first year of life.

The erythematous-squamous form is characterized by hyperemia and slight swelling of the skin, the appearance of itchy nodules, small vesicles, erosions, peeling and scratching. Exudation is not typical for this form. The erythematous-squamous form of atopic dermatitis is more often detected in children aged 2-3 to 10-12 years.

The erythematous-squamous form with lichenification is manifested by erythematous-squamous foci with the presence of small flat and follicular papules. The skin is lichenified, with a large number of scratches and small lamellar scales. Skin rashes occur predominantly on the flexor surface of the limbs, the front and side surfaces of the neck, and the back of the hands. White persistent or mixed dermographism is characteristic. This form of atopic dermatitis is typical for children from 2 to 12 years old.

The lichenoid form of atopic dermatitis is more often observed in adolescents and is characterized by dryness and an accentuated pattern of the skin, swelling and infiltration. Against the background of erythema, large confluent foci of lichenification of the skin are detected.

Various clinical manifestations of atopic dermatitis can be combined in different combinations and vary in each specific case, and therefore it is advisable to distinguish three main clinical and morphological forms of this disease: exudative, proliferative and mixed. All clinical manifestations of atopic dermatitis that occur with exudation

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phenomena are classified as the exudative form, and skin manifestations with foci of infiltration and lichenification are classified as the proliferative form. The simultaneous presence of foci of exudation, infiltration, and lichenification in patients is considered as a mixed form of atopic dermatitis.

Based on the history of the disease, the characteristics of the clinical course and the results of an allergological examination, etiological variants of atopic dermatitis are identified that are associated with food, tick-borne, fungal allergies, household, pollen, and polyvalent sensitization.

The prevalence of the skin process is assessed by the location of lesions on the skin. If skin rashes are noted on the face, torso, limbs and (or) in the flexure area of large and medium-sized joints, then atopic dermatitis is regarded as widespread. If the skin process is limited only to the face and neck or the folds of large and medium-sized joints, or is localized around the wrists or legs, then this is local atopic dermatitis.

When assessing the severity of atopic dermatitis , the severity of inflammatory manifestations on the skin, the intensity of itching, enlarged lymph nodes, the frequency of exacerbations and the duration of remission are taken into account.

A mild course of atopic dermatitis is characterized by small skin rashes in the form of mild hyperemia, exudation, slight peeling, single papulovesicular elements, mild itching of the skin, and enlarged lymph nodes up to 3-4 mm. The frequency of exacerbations is 1-2 times a year. The duration of remission is 6-8 months.

In moderate to severe cases, there are multiple lesions on the skin with fairly pronounced exudation, infiltration, lichenification, excoriations and crusts. Itching is moderate to severe. Lymph nodes are enlarged to 5-8 mm. The frequency of exacerbations is 3-4 times a year. The duration of remission is 2-3 months.

Severe atopic dermatitis is characterized by multiple and extensive lesions with pronounced exudation, persistent infiltration and lichenification, with deep linear cracks and erosions. The itching is severe and constant. The frequency of exacerbations is more than 5 times a year. The duration of remission is 1-1.5 months.

In most cases, children with atopic dermatitis have accompanying manifestations: cutaneous (dry skin, periorbital shadows, palmar hyperliarity) and extracutaneous (allergic conjunctivitis, allergic rhinitis, bronchial asthma).

In patients with atopic dermatitis, concomitant pathologies are often detected: diseases of the gastrointestinal tract (80-97%), nervous system (55-60%), pathology of the ENT organs (50-60%), respiratory diseases (30-60%) . 40%), urinary system (20-30%), protozoal-parasitic invasion (18-20%).

The critical periods for the development of atopic dermatitis in children are the age of the child up to 3 years (during this period it is possible to achieve the highest probability of interrupting atopy with effective elimination measures), 6-7 years and 12-14 years [4].

ISSN 2181-3187

The prognosis of atopic dermatitis depends on the presence of atopy in relatives, the characteristics of pregnancy and childbirth, the time of the first manifestations of the disease, concomitant pathology, the patient's mental state, and the adequacy of therapy.

Making a diagnosis of atopic dermatitis in typical cases does not present significant difficulties. Due to the lack of pathognomonic tests and criteria for atopic dermatitis, this diagnosis in most cases is made on the basis of the main and additional diagnostic criteria proposed by JM Hanifin, G. Rajka, KD Cooper in 1986 [8, 9].

The main diagnostic criteria for atopic dermatitis include: itching of the skin, typical morphology and location of the rash, a tendency towards a chronic relapsing course, personal and family history of atopic disease, white dermographism.

Additional diagnostic criteria for atopic dermatitis include: xerosis, ichthyosis, hyperlinearity of the palms, cheilitis, seizures, Keratosis pilaris, Pityriasis alba, pallor of the facial skin, periorbital shadows.

A different combination of diagnostic criteria (three main and three additional) is sufficient to make a diagnosis of atopic dermatitis. However, some domestic and foreign scientists believe that the diagnosis, especially in the early stages and in latent cases, must be made on the basis of minimal signs and confirmed by modern laboratory diagnostic methods, the most important of which include a specific allergological examination, a study of the immune status, analysis stool for dysbacteriosis.

Most patients with atopic dermatitis exhibit sensitization to a wide range of allergens. Skin tests allow you to identify the suspected allergen and carry out preventive measures. However, involvement of the skin in the pathological process does not always allow this examination.

Serum IgE concentrations are elevated in more than 80% of patients with atopic dermatitis and are often higher than in patients with respiratory diseases. The degree of increase in total IgE correlates with the severity of the skin disease. It should be noted that 20% of patients with typical manifestations of atopic dermatitis have normal IgE levels. Thus, the determination of total IgE in blood serum helps diagnosis, but it cannot be fully relied upon when making the diagnosis, prognosis and management of patients with atopic dermatitis. In addition, in recent years, RAST, MAST, and ELISA methods have been widely used to determine the content of specific IgE antibodies in vitro [5].

Modern therapy for atopic dermatitis is pathogenetic and is aimed at eliminating pathological disorders in organs and systems, as well as preventing exacerbations of the disease. It includes elimination measures, drug therapy, local therapy and rehabilitation measures. Therapy should be strictly individual, taking into account the clinical form, stage and period of the disease, concomitant pathological conditions and complications [7].

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Among elimination measures, the leading place is occupied by the exclusion of causally significant food allergens with the importance of specialized diets, the effectiveness of which depends on the completeness of identification and exclusion of all allergenic foods from the diet. In this case, an indispensable condition is their replacement with food products of equal nutritional value and calorie content. Specialized diets have not only therapeutic, but also diagnostic and preventive capabilities. It is advisable, before prescribing an elimination diet for a child, to record reactions to nutrition based on an analysis of the food diary. At the beginning of the examination of the child, until the results of specific diagnostics are obtained, a diet is used, from which suspected food allergens, obligate allergens (milk, eggs, fish, coffee, cocoa, chocolate, honey, nuts, vegetables and fruits containing red, yellow pigments, and etc.), as well as foods that can cause nonspecific liberation of histamine (cheese, sauerkraut, legumes, spinach, etc.).

Since cow's milk proteins are a causally significant allergen in the development of allergies in young children, the main principle of diet therapy is the exclusion of milk formulas and their replacement with mixtures based on soy protein isolate. However, a large number of children with cow's milk protein intolerance also develop soy protein intolerance. To feed such patients, hypoallergenic formulas based on milk protein hydrolysates with a low degree of hydrolysis have recently been developed, which are used for mild food allergies, as well as when it is necessary to transfer children with a history of allergies to artificial feeding. In such mixtures, the fat and carbohydrate components are similar to those in conventional adapted mixtures; the amino acid set of the protein component is close to the composition of human milk. These mixtures are complete and balanced, enriched with vitamins, microelements, and taurine.

Along with an elimination diet, patients with atopic dermatitis are prescribed drug therapy: drugs that have antihistamine and antiserotonin effects, drugs that inhibit the release of biologically active substances from mast cells, drugs that normalize the functional state of the gastrointestinal tract, sorbents, sedatives and immunomodulators.

Of the antihistamines, preference should be given to second- generation drugs (Claritin, Gismanal, Trexil, Zyrtec, Kestin, etc.), which selectively act on peripheral H1 receptors, have less neurotoxicity and sedative effect and are increasingly used in the treatment of atopic dermatitis. These drugs can relieve acute manifestations of allergies. With long-term use of second-generation antihistamines (up to 2-3 months), a decrease in exacerbation episodes is observed and clinical remission is achieved.

In the treatment of atopic dermatitis, drugs are used whose action is aimed at inhibiting the secretion of allergy mediators (zaditen, ketotifen, nalcrom). These drugs are used for long-term preventive treatment (at least 2-3 months).

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Drugs that normalize the function of the digestive organs are prescribed to improve the processes of breakdown of allergic food substances and correct enzymatic disorders. For this purpose, abomin, festal, digestal, panzinorm, creon, hilak-forte are used. The duration of the course of treatment should not exceed 2-3 weeks.

According to a number of authors, in the acute phase of the disease it is advisable to prescribe enterosorbents: carbolene, activated carbon, polyphepane, bilignin, etc. (for a short course of up to 5-7 days).

With atopic dermatitis, as a rule, the intestinal biocenosis is disrupted. To eliminate it, eubiotics are used.

Depending on the severity of neurovegetative disorders, it is necessary to use sedative therapy that has a regulatory effect on the central nervous system (valerian extract, motherwort tincture, peony). In some cases, it is necessary to resort to the prescription of tranquilizers (rudotel, diazepam, meprobamate).

The course of atopic dermatitis can be aggravated by hypovitaminosis A. Therefore, it is advisable to prescribe an oil solution of vitamin A in an age-specific dosage (1000 IU per 1 year of a child's life). In young children, to avoid overdose, it is preferable to use an aqueous solution of vitamin A.

For atopic dermatitis that occurs with signs of immune deficiency, immunomodulatory agents can be effective. It is believed that the use of thymalin, tactivin, and vilosene helps to reduce allergy symptoms and reduce the level of total Ig E in the blood serum.

Conclusion

A review of the literature allows us to conclude that the problem of atopic dermatitis in children is relevant and requires further research in order to develop diagnostic criteria for the disease and more effective treatment methods.

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