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CLINICAL EFFICACY OF IMMUNOTHERAPY IN THE TREATMENT OF ATOPIC DERMATITIS IN CHILDREN

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Abstract
The article presents the results of a study devoted to the optimization of the clinical efficacy of complex therapy for children with exacerbation of IgE-mediated atopic dermatitis by including an immunomodulator of microbial origin - glucosaminylmuramyl dipeptide.

Keywords: Atopic dermatitis, traditional therapy, immunotherapy, muramyl dipeptides, clinical efficacy, lycopid.

Introduction

In the general structure of allergic diseases in children, much attention is paid to the problem of atopic dermatitis (AD) - a multifactorial inflammatory skin disease characterized by itching, chronic recurrent course, age-related features of the localization and morphology of lesions [1–3].

Among the numerous pathogenetic factors of AD (hereditary predisposition, imbalance of intracellular regulatory mechanisms, impaired membrane reception, etc.), the leading role is played by dysfunction of the immune system with a characteristic genetically determined hyperreactivity of the humoral link of immunity, an imbalance in the ratio of Th1-/Th2-lymphocytes, impaired cytokine regulation [4–6], and weakening of phagocytic processes [7]. Treatment of AD remains a subject of close attention for dermatologists, pediatricians and allergists.

This disease develops from an early age and has a tendency to chronicity, relapse, polyvalent sensitization and is often accompanied by the occurrence of complications and the formation of various concomitant pathologies [5, 8], including infectious, in which pathogenic microflora acts as a trigger for exacerbations of allergic diseases [4, 9].

From the point of view of the immunopathogenesis of AD, it is obvious that it is expedient to use immunotherapy in its complex treatment, which, although not etiotropic, helps to reduce the secondary manifestations of the allergic process [10].

Immunotropic agents capable of influencing the Th1-/Th2 cell ratio may be the preferred drugs of choice.

In this regard, the minimum biologically active fragment of muramyl dipeptides (MDP) - glucosaminylmuramyl dipeptide (GMDP), which belongs to the third-generation microbial preparations (Lycopid - Peptec JSC, Russia), deserves attention.

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The lycopid consists of a natural disaccharide – glucosaminylmuramil and a synthetic dipeptide –L-alanyl-D-isoglutamine attached to it.

In the body, the main target for microbial immunomodulators is phagocytic cells.

Under the influence of these drugs, the functional properties of phagocytes are enhanced (phagocytosis and intracellular killing of ingested bacteria are increased), and the production of pro-inflammatory cytokines necessary for the initiation of humoral and cellular immunity increases.

As a result, the production of antibodies can increase, the formation of antigen-specific T-helper cells and T-killers can be activated.

Purpose of the study was the optimization of the clinical efficacy of complex therapy of children with exacerbation of IgE-mediated AD by including an immunomodulator of microbial origin - HMDP (Licopid).

Material and Methods

The study included 30 children aged 6 to 9 years with moderate exacerbation of moderate IgE-mediated AD who did not have signs of clinical manifestation of concomitant bacterial, viral and mycotic infection at the time of examination.

The children were divided into 3 main clinical groups, equivalent in the course and extent of the skin lesion and differing in methods of treatment: group 1 - 10 patients who received, in addition to complex therapy, HMD (Licopid) in one course; Group 2 - 10 patients who were on conventional treatment without immunotherapy; Group 3 - 10 patients who received, in addition to traditional therapy, GMPD (Licopid) in two courses with an interval of 2 months. Traditional therapy included: hypoallergenic everyday life, elimination of causally significant and obligate allergens, the use of anti-inflammatory (local and systemic), including antihistamine, therapy and, if necessary, correction of dysfunctions of the gastrointestinal tract. The criteria for clinical efficacy in clinical groups were the prevalence of skin lesions, their intensity and subjective sensations of patients, recorded in special cards filled out in accordance with SCORAD (scoring of atopic dermatitis - scale for assessing atopic dermatitis).

The study was carried out according to the scientific and practical program "Atopic dermatitis and skin infections in children: diagnosis, treatment and prevention", which includes an assessment of the effectiveness of new treatment methods.

At the same time, 6 signs of the intensity of lesions in the form of erythema, edema/papules, weeping/crusting, excoriation, lichenification, dryness (non-inflamed skin) were taken into account on a scale of 0 to 3 points:

0 - absence,

1 - weak expression,

2 - moderate expression,

3 - harsh expression.

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The prevalence of the pathological skin process was estimated as a percentage according to the rule of "nines" (head and neck - 9% each, front and back surface of the body - 18% each, upper extremities - 9% each, lower extremities - 18% each, perineal area and genitals - 1% each). Subjective symptoms in patients (itching, sleep disturbance) were evaluated in points from 0 to 10. The SCORAD index was calculated according to the formula: IS = A / 5 + 7B / 2 + C, where:

A - prevalence of skin lesions,

B - intensity of clinical manifestations,

C - subjective symptoms.

The study of clinical parameters, including the calculation of the SCORAD index, was carried out in dynamics: before treatment, after 1, 2 and 6 months. from the beginning of treatment. Together with conventional treatment, immunotherapy was carried out according to the following scheme: Licopid sublingually 30 minutes before meals, 1 mg 2 times per day for 5 days, then 1 mg 1 times per day for 15 days (total dose of the drug 25 mg) in one course - in the 1st clinical group and two courses (total dose of the drug 50 mg) with an interval of 2 months. - in the 3rd clinical group.

Results of the Study

Analysis of the allergological history showed that 59.9% of the mothers of the examined children had a complicated course of pregnancy and childbirth, 33.1% of mothers had toxicosis of pregnancy.

Most children with a history of exacerbation of AD had concomitant diseases in the form of pollinosis of the rhino-conjunctival form (in 23%), bronchial asthma (in 19%), allergic rhinitis (in 10.8%), dry nocturnal cough (in 19%), acute respiratory infections from 2 to 8 times a month (in 47%), tonsillitis (in 10.8%), recurrent streptoderma (in 4.8%), recurrent furunculosis and stye (in 4.8%).

However, at the time of the examination, the patients did not have clinical signs of these comorbidities and infections.

In almost 60% of children, exacerbation of AD coincided with intestinal dysfunction (unstable stools, tendency to constipation), biliary dyskinesia (according to ultrasound), and dispancreatism. Skin manifestations of AD in children were polymorphic: the skin was dry with a grayish tint, with hidden or bran-like peeling.

The rashes were erythematous-infiltrative in nature.

In the majority of children (66%), inflammatory follicular and lichenoid papules merged and formed foci of lichenification, and there were excoriations.

In 23% of the examined children, thickening of the lower eyelids with hyperpigmentation of the outer corner of the eyes was observed. Based on the study and processing of special cards filled out for each patient in accordance with SCORAD, the prevalence (A) of the pathological skin process before treatment was 25.33±2.38%, the intensity (B) of clinical manifestations

was 8.40±0.52 points, and the assessment of subjective symptoms (C) reflecting the quality of life was 7.40±0.91 points. The SCORAD index was 41.86±2.56 points.

Thus, children were diagnosed with IgE-mediated AD of erythematous-squamous and lichenoid forms in the exacerbation stage in the phase of pronounced clinical manifestations, with a stubbornly relapsing course (up to 3–4 times a year), long periods of exacerbation and localization of areas of lichenization on the flexor surfaces of the extremities and neck. The prevalence of skin lesions in children with exacerbation of IgE-mediated AD after conventional therapy decreased by 1.8 times after 1 month. and 3 times after 2 months, while the inclusion of GMPD (Licopid) in complex therapy showed a 3.5-fold reduction in the area of skin lesions after 1 month. and 8.3 times after 2 months. A course of immunotherapy with MDP (course dose 25 mg) led to a more pronounced reduction in skin itching and sleep disorders than with traditional therapy: after 1 month. more than 30 times, after 2 months. until there are no subjective symptoms.

The calculation of the SCORAD index showed a positive clinical effect of combined immunotropic therapy, consisting in a more pronounced decrease in it relative to the initial values and after 1 month. (1.6 times) and 2 months. (6 times) after conventional therapy. Further follow-up studies in the 1st and 2nd groups, carried out after 6 months. from the start of therapy, cases of exacerbation of concomitant diseases (tonsillitis, adenoiditis, respiratory viral infections, nocturnal cough) were found, which were more common in the group of children who received traditional therapy without GMPD.

Relapses of exacerbation of AD were noted in children of both groups, but with the use of traditional therapy they were observed more often - in 58% of children, while in children who received the immunomodulator Licopid along with traditional treatment, they did not exceed 35%.

These results served as the basis for the formation of the 3rd clinical group of children with exacerbation of moderate IgE-dependent AD, comparable in clinical and laboratory data to children of the 1st and 2nd clinical groups.

In the 3rd group, 2 courses of immunotherapy with GMDP (Lycopid) were used with an interval of 2 months. (the total dose of the drug is 50 mg) and the assessment of its clinical efficacy after 6 months. after the end of therapy.

As the results of the study showed, immunotherapy combined with conventional treatment with two courses of GMDP (Licopid) has a more pronounced clinical effect, as evidenced by a significant reduction in the number of exacerbations of AD in groups 1 and 2 by 3.4 and 2 times, respectively.

In addition, the modified course of immunotherapy showed a more pronounced (3.2-fold) reduction in the number of exacerbations of concomitant diseases than with conventional therapy (1.5-fold).

Conclusion

The efficacy of GMPD (Lycopid) as part of complex conventional therapy of IgE-mediated AD erythematous-squamous and lichenoid forms in the acute stage in the phase of pronounced

clinical manifestations, with a persistent relapsing course, allows us to consider it the drug of choice for immunotherapy.

The use of the drug at a dose of 25 mg significantly reduces the area of skin lesions and the intensity of clinical manifestations of the disease with the complete disappearance of subjective symptoms after 2 months. from the beginning of therapy.

In addition, 2 courses of GMDP (Licopid) at a total dose of 50 mg reduce the frequency of relapses of AD and concomitant diseases more effectively than traditional therapy.

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