

Conclusions:

Discrepancies of the values of clinical refraction and APA sizes of the eye-ball in 30 % of the patients with progressing myopia.

Among the patients with progressing myopia with discrepant values of clinical refraction and APA sizes of the

eye-ball in 42.4 % cases juvenile glaucoma was diagnosed, while in 12.6 % patients glaucoma was detected with the corresponding aforesaid data.

Discrepancy of the clinical refraction values with the sizes APA of the eye-ball in the patients with progressing myopia can be one of the criteria to suppose juvenile glaucoma.

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Optimization of the therapy for children with allergic diseases of eyes

Abstract: a special pathogenetic complex therapy provides multi-level protection of intestine, stimulating immune response and activating non-specific factors of protection.

Key words: allergic diseases of eyes, children, therapy.

Topicality. In the whole world allergic diseases of eyes are urgent problems of ophthalmology: from 4% to 32% of population suffer these diseases and it tends to increase, first of all explained by worsening of ecologic conditions in industrially developed countries. The frequency of allergic damages of eyes is conditioned by the fact that in its tissues and structures there is significant amount of all components compulsory for allergic reactions' progress [1; 2; 3].

Disorders in the immune system of an organism effect the progress of almost all nosologic forms of ophthalmologic diseases. The part of immunologic drifts can vary: leading —

etiopathogenetic (i. e. it is the main reason of ophthalmic pathology development, for example autoimmune uveitis, sympathetic ophthalmia), complicating (complicate the progress of a pathologic process caused by other factors, such as infection or trauma in an eye) and associated (without significant effect on the development of ophthalmic diseases, but can lead to the worsening of the therapy results, as in case of post traumatic cataracts, separation of retina, complicated short sight) [4, 7].

Micro flora of gastro-intestinal tract of an organism is interrelated with its immune system. Endogenic flora of intestine,

the main representatives of which are bifid bacteria, stimulates lymphoid apparatus, synthesis of immunoglobulins, interferon and cytokines, increases the level of properdine and complement, increases the activity of lysosyme [8]. Consequently the disorder of normal micro flora, immune status and manifestation of the disease should be considered in a union, and the part of trigger mechanism in a certain case can be played by any of these components. The main place of allergens' penetration to an organism of a child is mucous of intestine. That's why in case of disbacteriosis disorders of digestion and protection of mucous membrane of intestine promote excessive penetration of allergens to a child's organism and formation of long-lasting and stable sensitizing gradually transferring to some allergic disease [5]. So, complex therapy of allergic diseases in children obligatory includes correction of intestine disbacteriosis. Disbacteriosis is one of the main reasons of allergic diseases and intake of probiotics is absolutely required [6].

The aim of the research: to optimize the therapy tactics for children with allergic diseases of eyes on the basis of micro biologic and immunologic researches.

Materials and methods of the research: 57 sick children (114 eyes) with allergic diseases of eyes (ADE) aged from 6 to 14 years old were examined in the basic clinic of Tashkent pediatric medical institute. Among them 39 (68.4%) were boys, and 18 girls (31.6%).

Clinically 40 patients (71.2%) had conjunctivitis, 5 (8.8%) — keratoconjunctivitis, 12 (21.0%) — blepharoconjunctivitis. Etiologic diagnostics of allergic diseases of eyes started with clinical examination, taking into account complaints of itching, burning, redness of eyes, feeling of "sand in eye-lids" and the character of excretion from conjunctive cavity. Objective examination showed hyperemia and loose conjunctive with folliculosis, moderate mucous or mucous-putrid excretion. After the cytologic scrape from conjunctive, checking of eye-lashes for demodecosis and IEA of blood, the patients were divided to 2 groups dependently on the etiology of the process. The first group — 28 children with infectious-allergic alterations, the second group — 29 children with allergic alterations of eye surface. The control group consisted of 12 healthy children under 14 years old without clinical-functional and laboratory symptoms of allergic diseases. The criterion of exclusion from the research in all groups was intake of antihistamine and hormonal agents.

All sick children had standard ophthalmologic checking.

The phenotype of immune competent cells was determined in 57 children with the help of monoclonal antibodies produced by Sorbent Ltd. (Russia). The amount of immunoglobulins was detected by the method of radial immune diffusion Manchini (1969) using mono-specific serums against IgA, IgM, IgG. Concentration of interleukins and interferons (IL-1 β , IL-4, TNF- α and IgE) in blood serum and lachrymal liquid was checked by firm-phase immune enzyme analysis method with application of "Protein

counter" and "Cytokine" test systems (JV, SRI Very Clean Bioagents).

The study of intestinal micro flora was based on methodic recommendations of V. G. Petrovskaya and A. Z. Smolyanskaya (1984). The main part of the research was performed in compliance with N. M. Gracheva and co-authors' method (1986).

Dynamics of immunologic and micro biologic tests performance was made in 1 month after the therapy.

Results of the research: The parallel study of eubiotic status of intestine and immunologic values of children with allergic diseases of eyes showed the presence of direct link between the detected pathologic alterations and that served the basis for differentiated inclusion of the new generation agents for normal intestinal micro flora — probiotic Bifilaxx Immuno to the complex therapy. On the basis of the detected hematologic values and disorders in cytokine status both in lachrymal liquid and blood we prescribed Kurantil — dipiridamol 25mg.

Ascarutin — combined agent of vitamins group was prescribed for strengthening of the immunity of the sick children with ADE.

For normal functioning of cell membranes, improvement of energetic and exchange processes we prescribed Taifon.

Monitoring of immunogram values in the process of the therapy showed that the performed complex pathogenetic therapy promoted positive drifts in the immunologic values of the children with ADE both in case of allergic alterations of the eye surface and infectious-allergic ones (table 1).

After the therapy we detected positive dynamics of the immunity values in children. The values of cell-mediated part in all the children reached the control values. In the humoral part there is also positive dynamics, though children with allergic damage of eyes had IgE values above the control ones 2.6 more. But after the therapy 2.7 times reliable decrease was noted.

The positive dynamics after the therapy was also registered in the study of cytokine status of the children with allergic diseases of eyes. IL-1 β after therapy diminished 2.4 times in the group with infectious-allergic diseases of eyes ($P < 0.01$) and 3 times in the children with allergic diseases of eyes ($P < 0.01$). Though these values in the group of children with allergic diseases of eyes exceeded the control ones to 30.5 ng/ml ($P < 0.01$), and to 52.6 ng/ml in the group with infectious-allergic diseases of eyes ($P < 0.01$).

Amount of IL-4 after the complex pathogenetic therapy in both groups decreased up to the control values. The amount of TNF- α in the children with allergic diseases of eyes with various genesis had positive dynamics after the therapy, but anyway it didn't reach the control values.

In the study of intestinal micro flora of the given category of children we detected remarkable deviations of dysbiotic character, on the basis of which 1 and 2 degrees of disbacteriosis were determined. After the therapy there is notable positive dynamics of intestinal micro flora values, presented in the Table 2.

Table 1. – Dynamic values of the immune status of the children with allergic diseases of eyes before and after the therapy

Values	Control (n=20)	1 group (n=28)		2 group (n=29)	
		Before therapy	Immune correction	Before therapy	Immune correction
Leu	6.9±0.30	8.6±0.32	6.7±0.24	7.9±0.34	6.7±0.17
Lymph	32.9±0.80	42.4±1.16	32.6±0.52	38.4±1.07	32.6±0.34
Lymph _{ABS}	2253.2±151.4	3850.6±250.8	2203.2±96.1	3060.5±175.4	2206.2±73.1
CD3	53.6±1.24	48.9±0.81	53.4±0.99	42.8±1.31	53.6±0.33
CD3 _{ABS}	1223.2±98.84	1875.9±130.9	1167.6±57.6	1317.9±91.52	1186.3±43.42
CD4	28.2±1.21	24.4±0.78	28.3±0.49	26.4±0.87	28.3±0.31
CD4 _{ABS}	632.2±47.65	936.1±63.06	631.2±34.4	822.7±57.30	631.1±20.74
CD8	23.4±0.86	25.8±0.64	22.7±0.55	19.2±0.78	22.7±0.41
CD8 _{ABS}	533.9±46.64	1012.2±80.1	495.6±20.91	580.6±38.56	497.9±16.12
CD16	18.6±0.58	21.8±0.71	18.6±0.59	15.8±0.44	18.6±0.24
CD16 _{ABS}	417.2±30.22	856.0±73.4	407.0±21.13	490.2±32.68	407.1±11.39
CD19	24.9±1.21	31.2±0.68	25.0±0.66	29.2±1.06	24.0±0.40
CD19 _{ABS}	558.1±46.14	1199.3±79.01	554.5±31.40	908.4±64.02	531.0±21.22
CD25	25.6±0.92	29.2±0.73	26.1±0.76	26.2±0.94	25.1±0.25
CD25 _{ABS}	585.4±52.29	1100.5±61.53	576.6±29.40	796.9±51.21	556.2±21.53
CD95	23.6±1.19	29.8±0.76	23.3±0.60	33.8±0.79	23.3±0.31
CD95 _{ABS}	557.4±47.15	1153.9±81.39	516.0±27.76	1013.4±51.5	518.2±21.29
IgA	148.6±3.56	183.8±2.89	148.0±2.93	180.7±4.64	148.0±1.17
IgM	97.5±3.17	137.1±4.11	96.6±3.08	152.1±3.92	96.6±1.90
IgG	1247.3±30.4	1198.8±22.51	1252.1±31.5	909.3±38.32	1120.5±31.96
IgE IU/ml	36.2±3.36	26.1±1.31	35.2±1.01	254.9±5.12	94.1±1.68
IPI	1.2±0.07	1.1±0.02	1.3±0.06	1.1±0.02	1.3±0.06
IL-1b ng/ml	29.5±0.75	200.2±3.10	82.1±3.00	178.3±5.14	60.0±1.31
IL-4 ng/ml	29.4±1.60	53.7±1.72	32.8±1.11	60.7±3.04	28.8±1.12
TNF-α ng/ml	38.5±1.50	92.3±2.16	57.5±0.86	57.6±1.29	42.0±1.26

Table 2. – Dynamic values of intestinal micro flora of the children with allergic diseases of eyes before and after the therapy

Values	Control (n=20)	1 group (n=28)		2 group (n=29)	
		Before therapy	After therapy	Before therapy	After therapy
Total amount of anaerobes	10.8±0.57	8.8±0.18**	10.6±0.41	8.6±0.23***	10.1±0.21^
Bifidobacteria	9.71±0.14	7.2±0.38**	9.2±0.23^^^	5.9±0.37***	9.1±0.14^^
Lactobacteria	9.28±0.54	6.2±0.35***	9.21±0.23^^^	5.8±0.29***	8.9±0.14^^
Total amount of aerobes	7.82±0.09	8.6±0.07***	7.9±0.28	8.5±0.05***	7.8±0.12^^
Lactose positive	8.46±0.38	7.7±0.16	8.65±0.35	8.0±0.14	8.6±0.2
Lactose negative	2.21±0.33	3.4±0.49***	2.56±0.31^	2.9±0.34*	2.43±0.11
enterococci	4.03±0.12	5.4±0.14***	4.6±0.57	5.5±0.11***	4.7±0.27
Staphylococcus aureus	–	3.6±0.24	0	3.5±0.39	0
Epidermal Staphylococcus	2.3±0.19	4.4±0.34**	2.21±0.09^^^	4.4±0.35***	2.5±0.21^
Candida	2.6±0.06	3.9±0.31**	2.84±0.23^	4.0±0.43**	2.31±0.09^
Proteus	1.3±0.2	2.3±0.15**	1.73±0.17**	2.2±0.13**	1.43±0.29^

Note: * — reliability of the data with the control group (* — $P < 0.05$; ** — $P < 0.01$; — *** — $P < 0.001$);

^ — reliability of the data between the values before and after the therapy (^ — $P < 0.05$; ^^ — $P < 0.01$; ^^ — $P < 0.001$)

There was no reliable difference in the amount of anaerobes and the control values after the complex pathogenetic therapy in the children with ADE.

As it is seen from the table 2 children of the 1st group after complex therapy had total amount of anaerobes equal to 10.6 ± 0.41 lg CFU/g and 10.1 ± 0.2 in the 2 group.

The study of bifidobacteria amount showed that in the children with ADE the values increased in comparison with the values before therapy and reached the control ones. The same picture was observed in the analysis of lactobacteria amount.

The study of the total amount of aerobes proved the complex pathogenetic therapy for the children with ADE

promoted the decrease of the values down to the control ones in both groups (7.9 ± 0.28 con 7.82 ± 0.09 lg CFU/g and 7.8 ± 0.12 con 8.5 ± 0.05 lg CFU/g).

The amount of lactose positive colon bacilli both in case of allergic diseases of eyes and infectious ones reached the control values (8.65 ± 0.35 con 8.6 ± 0.2 con 8.46 ± 0.38 lg CFU/g) after the therapy.

The values of lactose negative colon bacilli after the complex therapy exceeded the values of the control group a little bit.

The rise of Staphylococcus is a pathogenic factor, especially Staphylococcus aureus amount in the examined children before the therapy was almost 5 times higher than normal, and after the therapy there was a notable decrease.

The number of isolated strains of Candida after the complex therapy decreased 1.3 times in comparison with

the values before therapy and almost reached the control figures. The same tendency is observed in the study of Proteus.

Thus, after the complex therapy children with ADE had recovery of intestinal micro flora both in cases of allergic diseases of eyes and infectious diseases.

Conclusion:

1. Children with allergic diseases of eyes have peculiarities of immunologic status dependent on the etiology of the process.

2. Children with allergic damages of eyes have registered explicit deviations of dysbiotic character testifying the 2 degree of dysbacteriosis.

3. The special pathogenetic complex therapy provides multi-level protection of intestine, stimulating immune response and activating non-specific factors of organism's protection.

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Anthropometric parameters of the head and maxillofacial part in Children with diabetes mellitus and its compliance to the principle of the golden ratio

Abstract: The study details the morphometric parameters of the head and maxillofacial region in a 9-year-old children, divided into 2 groups — health and diabetes mellitus. The obtained data are compared against the parameters of the golden ratio.