Efficacy of separate asthma therapy for particular phenotypes of asthma children

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Introduction. Improving efficiency of basic asthma therapy is actual problem of asthma treatment now. Genotyping of asthma proved to be an ineffective method of solving this task. Asthma phenotype personalized treatment manner can be perspective for solutions to this problem. Mg deficiency may be one of the reasons of ineffective asthma treatment.

Methods. There were performed assesment of Mg defficiency ($<1,65$ mmol/L in erythrosites) prevalence in asthma childern (n=141). Patients (n=50, middle age 14,2 y.o., boys/girls 58/17) with and without Mg deficiency were stratifite by regime FLU/MON (low dose fluticasone propionate (inhalation) plus montelukast (per os), groups 1 and 3) or regime FLU/SAL (fixed combination of low dose fluticasone propionate plus salmeterol, groups 2 and 4). Main estimated parameters in a 3-month treatment were: assesment of asthma control level (GINA), rescue medication requirement, asthma exacerbation frequency.

Results. Mg deficiency prevalence were revealed in 41.1% (58/141) asthma children in Volgograd. In a 12 weeks rescue medication consumption were equal in all groups of treatment. In groups without Mg deficiency asthma control level were 40% (4/10) vs 73,3% (11/15) in a 12 weeks FLU/MON and FLU/SAL treatment respectively ($p<0,05$). In Mg deficiency groups asthma control level were 30% (3/10) vs 40% (6/15) in a 12 weeks FLU/MON and FLU/SAL treatment respectively. Asthma exacerbation frequency were 40% (6/15) vs 6,6% (1/15) respectively ($p<0,05$) in FLU/SAL groups with and without Mg deficiency. Asthma exacerbation frequency were equal in both FLU/MON groups with and without Mg deficiency (20% (2/10) vs 20% (2/10) respectively).

Conclusion. Mg deficiency asthma children phenotype decreases FLU/SAL efficiency and do not influence to FLU/MON efficiency.