



POSTER DISCUSSION PRESENTATION

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# PD09 - Association of the TNF $\alpha$ -308 G>A polymorphism with clinical phenotypes of asthma in Moldovan children

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## Background

Patients with asthma show a marked phenotypic variability, suggesting etiological heterogeneity and strong environmental influences. Bronchial asthma is determined by a complex interaction between genetic and environmental factors, but these mechanisms are not yet elucidated.

**The aim** of the study was to evaluate peculiarities of the TNF $\alpha$  gene polymorphism (-308 G>A) incidence and its association with different clinical evolution of bronchial asthma in Moldovan children.

## Material and methods

TNF $\alpha$  gene polymorphism (-308 G>A) was studied in 180 Moldavian children in order to assess the prevalence of the allelic variants of the gene in 90 children with asthma and 90 controls. All the patients underwent complex clinical and functional examination (spirometry with bronchodilatational test), and laboratory evaluation (molecular genetics, immunological and general tests).

## Results

Following genotypes of the TNF $\alpha$  gene were identified - TNF $\alpha$  -308 G/G, TNF $\alpha$  -308 G/A and TNF $\alpha$  -308 A/A. The study showed that the homozygous genotype TNF $\alpha$  -308 G/G has protective role, being significantly more frequently identified in children with solitary form of asthma compared with those with allergic triad (86.2% versus 56.4%, respectively; OR = 4.83, 95% CI: 1.41 to 16.54,  $p < 0.05$ ). However, functionally compromised genotype TNF $\alpha$  -308 G/A was found more frequently in children with asthma associated with other allergic

symptoms (ie., 38.5% compared with 13.8% in cases with asthma alone,  $p < 0.05$ ) and was observed twofold more frequently in boys with mild asthma with no associated atopic symptoms, compared to those with moderately to severe evolution of the disease (40.9% versus 20.7%, respectively;  $p > 0.05$ ). Noticeably, the homozygous genotype TNF $\alpha$  -308 A/A group was identified only in children with allergic triad in 5.1% of cases.

## Conclusion

Study results demonstrate the association of the functionally compromised of genotypes of the TNF- $\alpha$ -308 gene with different phenotypes of asthma in Moldavian children.

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