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P51 - ADRB2 gene polymorphisms of the asthma pediatric patients in Russia's Perm region

Evgenii Furman*, Mariya Ponomareva, Yurii Pechenkin, Irina Koryukina

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B2 adrenergic receptor (ADRB2) gene variation could explain differences in bronchodilator response among patients with asthma or identify a subgroup of patients with reduced response.

The aim of our research was identified polymorphisms in the ADRB2 gene in Russian asthma pediatric patients (in Perm region).

44 children from 3 to 18 years of age with bronchial asthma were examined. Mild asthma was in 95,5%, moderate asthma – in 4,5%. Gly16Arg and Gln27Glu mutations of ADRB2 gene were identified by PCR technique.

Results

Gly16Arg mutations of ADRB2 gene was identified in 45,5% and Gln27Glu mutations – in 27,2% (table 1).

There were not correlations between severity of bronchial asthma and ADRB2 gene polymorphisms (Gly16Arg and Gln27Glu mutations). The total IgE level was increased in group with Gly16Arg mutation 565,6±242,6 ME/ml, comparatively group without mutation (255±60,31 ME/ml, p=0,563). We found that asthma exacerbations in children with gene mutations occurs after allergen's exposure in 64% cases. In group without the mutation asthma exacerbations occurs in acute viral respiratory infections in 68% cases.

Thus ADRB2 gene polymorphisms may be associated with clinical features of asthma in children.

Table 1 The distribution of genotypes of ADRB2 gene in children with asthma

Variant	Genotipe					
rs1042713	**AA**		**AG**		**GG**	
	%	n	%	n	%	n
	18,1	8	36,4	16	45,5	20
rs 1042714	**CC**		**CG**		**GG**	
	36,4	16	36,4	16	27,2	12

Perm State Medical Academy, Perm, Russia

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