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Introduction:

Studies aimed at the identification of potential risk factors of the alcohol dependence syndrome (ADS) and, consequently, of risk groups of this condition that should be subjected to preventive programs, are being undertaken since many years.

The aims of this study were (1) to analyze the effects of polymorphisms in the *GABRA2* gene on the risk of alcoholism; (2) to determine associations between some genetic markers basing on haplotype analysis;

Material and methods:

The study included 305 Caucasian males, among them 156 patients with ADS and 149 controls. These two groups, were compared as to the frequencies of haplotypes of the following polymorphisms: rs 279826, rs 279871, 279845 of the *GABRA2* gene. All subjects were recruited in the North West region of Poland. Alcohol use and family history of alcoholism were assessed by means of a structured interview, based on the Polish version of Semi-Structured Assessment on Genetics in Alcoholism (SSAGA). Genomic DNA was extracted from venous blood. Polymorphisms were detected using PCR real time method.

Conclusions:

Significant relationships documented by the haplotype analysis of ADS patients point to the usefulness of haplotype constructions in etiopathogenetic studies of ADS. The protective haplotype was G-G-A ($p=0,01$).

In conclusion, larger – possibly multicentre – studies are needed to finally uncover the role of

GABRA2 gene in determining ADS. Moreover, other candidate genes with a possible impact on the phenotype of alcohol-dependent individuals should be sought.

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