

SC101. Migraine with aura in the population of Buenos Aires, Argentina: association analysis of 6 SNPs

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Introduction

Migraine with aura is a complex disabling neurological disorder that manifests with episodic and recurrent attacks. It has a high prevalence and socioeconomic impact. Its causes are both environmental and genetic. Although genetic factors are relevant for prevention and treatment, they have not been analyzed in depth in the population of Argentina.

Objectives

The objective of this study is to characterize migraine with aura in the population of Buenos Aires, through the analysis of genetic variants previously reported for other populations in association to this disorder.

Materials and methods

DNA from 203 donors (105 migraineurs and 98 controls) was obtained from saliva samples and genotyped for the SNPs rs12134493 (TSPAN2), rs10166942 (TRPM8), rs10456100 (KCNK5), rs4910165 (MRV11), rs11031122 (MPPED2) and rs6081613 (SLC24A3) through allele-specific PCR amplification. The study was previously approved by the Ethics Committee of IMBICE, and all donors gave written consent for participation in it.

Results

The cases fitted the HWE (Hardy-Weinberg Equilibrium, $p > 0.05$) for all the SNPs and in the control group they fitted with the exception of rs12134493 and rs4910165. Non-significant differences were found between cases and controls (FST). A model of logistic regression was performed using all genotypes of the analyzed markers. For rs10456100, association was significant ($X^2 = 4.15$; $p = 0.0416$) in TT genotype taking as reference CC, giving an OR (odds ratio) of 0.11 (confidence interval 0.01-0.92) while the other SNPs did not show significant association.

Conclusions

We found that the T allele of rs10456100, which has been reported as a risk allele in other populations of the world, probably acts as protective when it is present in homozygous genotype in our population. These preliminary results need confirmation in a larger sample size, nevertheless they suggest a particular genetic basis of migraine with aura in the studied population. Moreover, as additional genetic markers will be

included in this study, the information might be of help for defining a better treatment of local migraine patients.