

**Genetic polymorphism of apolipoprotein E in hemorrhagic stroke: Case-control study**

Sabrina Boumendjel, Djamel Khodja, Abdelmajid Hamri, Chérifa Benlatreche and Noureddine Abadi  
Constantine 1 University, Algeria

**Aim:** It is a case-control study realized at the Hospital of Constantine. It discusses the relationship between polymorphism of apolipoprotein E and hemorrhagic stroke.

**Method:** The determination of the polymorphism of apolipoprotein E was carried out by PCR-digestion (polymerase chain reaction) using the enzyme of restriction HhaI. The study population consisted of 81 Algerian patients with hemorrhagic stroke and 509 control subjects.

**Results:** Three isoforms of apolipoprotein E have been identified. The allelic distribution of apoE in the general population showed a predominance of the allele  $\epsilon 3$  (84.3%) followed distantly by allele  $\epsilon 4$  (10.7%) and  $\epsilon 2$  (5%) respectively. In hemorrhagic stroke patients, allele frequencies of  $\epsilon 4$  and  $\epsilon 2$  are respectively 10.5% and 3.3%. These frequencies are not statistically different as reported in the control group. The assessment of the odds ratio of patient subjects with allele  $\epsilon 4$ ,  $\epsilon 2$ ,  $\epsilon 3/\epsilon 4$  and  $\epsilon 2/\epsilon 3$  compared to control subjects with genotype  $\epsilon 3/\epsilon 3$  did not show any statistical association between the polymorphism of the apoE and the set of hemorrhagic stroke.

**Conclusion:** The distribution of apolipoprotein E allele frequencies in the population of Constantine is similar to that of Southern Europe. The  $\epsilon 2$ ,  $\epsilon 4$  alleles do not appear to be implied in the occurrence of this affection; nevertheless, large additional studies are necessary to confirm these results.

sabboumendjel@yahoo.fr