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## **ApoE epsilon4 genotype and the age at onset of temporal lobe epilepsy: a case-control study and meta-analysis.**

[Kauffman MA](#)<sup>1</sup>, [Consalvo D](#), [Moron DG](#), [Lereis VP](#), [Kochen S](#).

### **Author information**

- <sup>1</sup>Consultorio de Neurogenética, Centro de Epilepsia, Centro Universitario de Neurología, Hospital JM Ramos Mejia, IBCN Eduardo de Robertis, CONICET, Buenos Aires, Argentina.  
marcelokauffman@marcelokauffman.info

### **Abstract**

In order to investigate the role of ApoE epsilon4 as a modifier of the age at onset of temporal lobe epilepsy (TLE), we performed a molecular epidemiology study in 78 patients with mesial temporal lobe epilepsy and hippocampal sclerosis. Genotyping was done by a PCR-RFLP assay. In order to better estimate the role of this variant as a modifier of the age at onset, we also performed a systematic review of the literature. We included our results into a meta-analysis along with data available from seven published studies with 728 patients that looked into the role of ApoE epsilon4 in TLE. We found that ApoE epsilon4 carriers in our population had a non-significant earlier age of epilepsy onset than non-carriers. The meta-analysis confirmed this finding, showing that ApoE epsilon4 carriers had epilepsy onset almost 4 years earlier than non-carriers (mean difference 5.15 years; CI 95% 2.08-6.22; p=0.001). In conclusion, the ApoE epsilon4 isoform is a genetic factor that might influence the age at onset of TLE.

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