Mol Biol Rep. 2012 Dec;39(12):10615-9. doi: 10.1007/s11033-012-1949-5. Epub 2012 Oct 14.

SLC6A4 gene variants and temporal lobe epilepsy susceptibility: a meta-analysis.

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Abstract

There seems to be a role for serotoninergic neuro-transmission in the pathophysiology of the epilepsies. Different groups have studied the role of regulatory variants in the SLC6A4 gene, which code for the central serotonin transporter, in the complex genetics of temporal lobe epilepsy (TLE) obtaining contradictory findings. Therefore, a systematic review and critical analysis of this topic seem to be timely. Published studies up to October 2011 of TLE and the SLC6A4 promoter and intron 2 variant number repeat polymorphisms (VNTR) were identified by searches of Medline, Scopus and ISI-Web of Sciences databases. Meta-analysis of TLE case-control data were performed to assess the association of SLC6A4 VNTRs with TLE susceptibility. Pooled odds ratios were estimated by means of a genetic-model-free approach. The quality of the included studies was assessed by a score. The studies included compared a total of 991 TLE cases and 1,202 controls. We did not find synthetic evidence of association between SLC6A4 promoter and intron 2 variants and the risk of TLE. However, the intron 2 VNTR seems to have opposite effects in different populations. In this meta-analysis our findings were inconclusive in order to associate any of the 5-HT receptor gene variants with the risk of TLE.

PMID:

23065262

[PubMed - indexed for MEDLINE]