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Genetic Biomarkers of Posttraumatic Epilepsy: A Systematic Review

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Highlights:

- The field of epilepsy biomarkers remains is in its infancy
- All the potential biomarkers discussed are preliminary work requiring validation
- The most promising genetic biomarkers are IL-1β rs1143634 and A1AR rs10920573

Abstract

INTRODUCTION: Posttraumatic epilepsy (PTE) is caused by traumatic brain injury (TBI) and is an important contributor to the overall social and economic burden of epilepsy. Epidemiological studies suggest that there is a genetic contribution to the development of PTE. Identification of clinically useful genetic biomarkers is important for advancements in diagnosis and treatment of PTE.

METHODS: A systematic review was performed on the existing literature of genetic biomarkers of posttraumatic epilepsy (PTE). A multi-database search yielded 4 articles deemed suitable for review. Potential genetic biomarkers were identified and critically evaluated.

RESULTS & DISCUSSION: Biomarkers identified included single nucleotide polymorphism (SNP) rs1143634 of the interkeukin-1β (IL-1β) gene, SNPs rs3828275, rs3791878, and rs769391