

EARLY CHILDHOOD PROLONGED FEBRILE CONVULSIONS, ATROPHY AND SCLEROSIS OF MESIAL STRUCTURES, AND TEMPORAL LOBE EPILEPSY: AN MRI VOLUMETRIC STUDY

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We performed MRI volumetric measurements of the amygdala (AM) and hippocampal formation (HF) in a group of 43 patients with temporal lobe epilepsy not controlled by optimal drug treatment. Fifteen patients (35%) had a history of prolonged febrile convulsions (PFC) in early childhood; 30 patients underwent surgery, and histopathology was available in twenty-four. The mean values of Ah4 and HF volumes ipsilateral to the EEG focus were significantly smaller than those of normal controls. The volumetric measurements showed a more pronounced atrophy of the Ah4 in patients with a history of PFC, although the HF volumes were also smaller in this group. Patients with a history of PFC had a higher proportion of more severe mesial temporal sclerosis (MTS) compared with those with no PFC. These findings confirm a correlation between early childhood PFC, the severity of atrophy of mesial structures, and MTS.

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Comment from Gregory D. Cascino, MD, FAAN, Associate Editor: *This was one of several studies published in Neurology indicating the importance of MRI-based structural neuroimaging in identifying hippocampal findings in patients with mesial temporal sclerosis. Imaging-detected hippocampal volume loss is shown to be a surrogate for hippocampal neuronal loss.*

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Early childhood prolonged febrile convulsions, atrophy and sclerosis of mesial structures, and temporal lobe epilepsy: An MRI volumetric study

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