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Abstracts

Papers appearing in the June 2020 issue

Acute encephalopathy after head trauma in a patient with a *RHOBTB2* mutation

Objective De novo missense mutations in the *RHOBTB2* gene have been described as causative for developmental and epileptic encephalopathy.

Methods The clinical phenotype of this disorder includes early-onset epilepsy, severe intellectual disability, postnatal microcephaly, and movement disorder. Three *RHOBTB2* patients have been described with acute encephalopathy and febrile epileptic status. All showed severe EEG abnormalities during this episode and abnormal MRI with hemisphere swelling or reduced diffusion in various brain regions.

Results We describe the episode of acute encephalopathy after head trauma in a 5-year-old *RHOBTB2* patient. At admission, Glasgow coma scale score was E4M4V1. EEG was severely abnormal showing a noncontinuous pattern with slow activity without epileptic activity indicating severe encephalopathy. A second EEG on day 8 was still severely slowed and showed focal delta activity frontotemporal in both hemispheres. Gradually, he recovered, and on day 11, he had regained his normal reactivity, behavior, and mood. Two months after discharge, EEG showed further decrease in slow activity and increase in normal electroencephalographic activity. After discharge, parents noted that he showed more hyperkinetic movements compared to before this period of encephalopathy. Follow-up MRI showed an increment of hippocampal atrophy. In addition, we summarize the clinical characteristics of a second *RHOBTB2* patient with increase of focal periventricular atrophy and development of hemiparesis after epileptic status.

Conclusion Acute encephalopathy in RHOBTB2 patients can also be triggered by head trauma.

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TGM6 L517W is not a pathogenic variant for spinocerebellar ataxia type 35

Objective To investigate the pathogenicity of the *TGM6* variant for spinocerebellar ataxia 35 (SCA35), which was previously reported to be caused by pathogenic mutations in the gene *TGM6*.

Methods Neurologic assessment and brain MRI were performed to provide detailed description of the phenotype. Whole-exome sequencing and dynamic mutation analysis were performed to identify the genotype

Results The proband, presenting with myoclonic epilepsy, cognitive decline, and ataxia, harbored both the *TGM6* p.L517W variant and expanded CAG repeats in gene *ATN1*. Further analysis of the other living family members in this pedigree revealed that the CAG repeat number was expanded in all the patients and within normal range in all the unaffected family members. However, the *TGM6* p.L517W variant was absent in 2 affected family members, but present in 3 healthy individuals.

Conclusion The nonsegregation of the *TGM6* variant with phenotype does not support this variant as the disease-causing gene in this pedigree, questioning the pathogenicity of *TGM6* in SCA35.

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J.J. Millichap, K.L. Park, T. Tsuchida, et al. 2016;2:e96. doi.org/10.1212/NXG.0000000000000096

***CHCHD10* variant p.(Gly66Val) causes axonal Charcot-Marie-Tooth disease**

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B. Rhead, M. Bäärnhielm, M. Gianfrancesco, et al. 2016;2:e97. doi.org/10.1212/NXG.0000000000000097

The Alzheimer's Disease Sequencing Project: Study design and sample selection

G.W. Beecham, J.C. Bis, E.R. Martin, et al. 2017;3:e194. doi.org/10.1212/NXG.0000000000000194