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Letter to the Editor

Are mitochondrion-toxic antiepileptic drugs responsible for refractory epilepsy in carriers of the DNM1L variant c. c.1207C>T?

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With interest we read the article by Schmid *et al.*, (2019) about a 3 years-old male with delayed speech-development who presented with refractory status epilepticus and consecutively developed epileptic encephalopathy leading to a comatose state (Schmid, S. J. *et al.*, 2019). The condition was attributed to the heterozygous variant c.1207C>T in *DNM1L* (Schmid, S. J. *et al.*, 2019). We have the following comments.

A shortcoming of the study is that the family history was not provided (Schmid, S. J. *et al.*, 2019). We should be informed if any other family member had developed epilepsy or other phenotypic features of a mitochondrial disorder (MID). Of particular interest are father and mother, if they had a history of MID or if they were consanguineous. It is also crucial to know if any other first-degree family member carried the *DNM1L* variant of the index case, to know if the variant occurred de novo or was inherited.

A further shortcoming refers to the antiepileptic drugs (AEDs) applied (Schmid, S. J. *et al.*, 2019). The patient received diazepam, midazolam, phenytoin, levetiracetam, lidocaine, valproate, lidocaine, propofol, topiramate, methyl-prednisolone, ketamine, ethosuximide, lamotrigine, bromide, and, thiopental (Schmid, S. J. *et al.*, 2019). Additionally, the ketogenic diet was tried. From valproate, phenytoin, and barbiturates it is well known that they can be mitochondrion toxic (Finsterer J. 2017). It thus should be discussed if recurrent relapses and the poor outcome of the patient were attributable to mitochondrion-toxicity of some of the AEDs applied. Since steroids can be detrimental in some MIDs (Finsterer, J., & Frank, M. 2015), we should know if steroids contributed to the deterioration of epilepsy.

Overall, this interesting case could be more meaningful by providing the family history and considering the mitochondrion-toxicity of some AEDs and steroids.

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