Molecular Genetics and Metabolism Reports 11 (2017) 30

Contents lists available at ScienceDirect

Molecular Genetics and Metabolism Reports

journal homepage: www.elsevier.com/locate/ymgmr

Correspondence

The clinical heterogeneity of late-onset MELAS

ARTICLE INFO

Keywords:
mtDNA
m.3243A > G
MELAS
Gene
Mitochondrial disorder
Stroke-like episode

We read with interest the response by Finsterer and Zarrouk-Mahjoub [1] to our manuscript 'Case Report: 5 Year Follow-up of Adult Late-Onset Mitochondrial Encephalomyopathy with Lactic Acid and Stroke-Like Episodes (MELAS)' [2–4]. We have the following responses: Regarding the doses of initial anti-epileptic medication (AEDs), since this was some time ago and at a different institution we do not have accurate dosing. Currently, however, the patient is on levetiracetam 2000 mg BID and lamotrigine 250 mg BID. Initially she required multiple AEDs due to poor control. Phenytoin was given initially as the diagnosis of MELAS was not established at that time. Her seizures appeared independent of her stroke-like episodes (SLEs). Her transient episodes of confusion were attributable to her stroke-like episodes and not AEDs, they resolved without change in AED dosing. The authors are correct that clonazepam (not clonazapan) was one of the AEDs used. Heteroplasmy rates were not determined in other tissues as the diagnosis was clear due to her clinical presentation coupled with the molecular findings. It is possible, and indeed likely, that heteroplasmy rates differed in other tissues but it was felt not necessary to test them; additionally heteroplasmy rates were not measured over time as this would not have changed her clinical management. The patient did have a brain MRI (or cMRI as the author states) during a SLE which showed multiple areas of cortical signal intensity involving both the cortex and subcortical U-fibers. Additionally there was cortical and subcortical involvement involving the posterior aspects of both temporal lobes; given this extent of involvement these changes were felt to be consistent with MELAS. Lastly, there was gyral and dural enhancement overlying the areas of abnormal signal intensity in multiple areas. The patient's mother was not available for testing but family history for hearing loss was significant in the proband's mother, older brother, and maternal aunt, but none of these relatives have experienced seizures or stroke-like episodes. Both of the patient's grandmothers died of strokes in their 70s–80s, the etiology of which is unclear.

Once again we thank Finsterer and Zarrouk-Mahjoub for their interest in this case and appreciate their comments and hope we have been able to answer them in a satisfactory manner.

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http://dx.doi.org/10.1016/j.ymgmr.2017.04.003
Received 7 April 2017; Accepted 8 April 2017
Available online 15 April 2017