

## Correspondence Arrhythmias in MELAS syndrome

Josef Finsterer, Sinda Zarrouk-Mahjoub

► **To cite this version:**

Josef Finsterer, Sinda Zarrouk-Mahjoub. Correspondence Arrhythmias in MELAS syndrome. Molecular Genetics and Metabolism Reports, 2016, <10.1016/j.ymgmr.2016.03.008>. <pasteur-01451418>

**HAL Id: pasteur-01451418**

**<https://hal-riip.archives-ouvertes.fr/pasteur-01451418>**

Submitted on 1 Feb 2017

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.





## Correspondence

## Arrhythmias in MELAS syndrome



## Keywords:

Non-compaction  
Hypertrabeculation  
Congenital heart defect  
Heart failure  
Sudden cardiac death

## Letter to the Editor

With interest we read the article by Thomas et al. about a 44 year old female with MELAS syndrome due to the m.3243A>G mutation, which manifested cardiologically as hypertrophic cardiomyopathy and episodes of supraventricular tachycardia requiring atenolol [1]. We have the following comments and concerns.

MELAS may be associated with sudden cardiac death [2]. Did the authors consider implantation of a loop-recorder to monitor if there were also ventricular arrhythmias requiring implantation of an ICD?

The authors describe hypertrophic cardiomyopathy as progressive [1]. What was the systolic function and wall thickness at the last follow-up? Figure 1B suggests that there is noncompaction of the left ventricular myocardium [1]. Did the authors look for this unclassified cardiomyopathy, which may occur in addition to hypertrophic cardiomyopathy, goes frequently along with late gadolinium enhancement [3], and is most frequently associated with mitochondrial disorders? [4]

A heteroplasmy rate of 25% of the m.3243A>G mutation is low. In which tissue was it determined? Blood, muscle, saliva, or urine? Were other tissues investigated for the heteroplasmy rate as well? Was a muscle biopsy carried out?

Recurrent stroke-like episodes (SLEs) are reported during the 11 years since diagnosis [1], which are a clinical manifestation of cerebral stroke-like lesions [5]. How many SLEs did the patient experience,

in which cerebral region, and why could the remnants not be seen on cerebral MRI, which only showed atrophy and leucoencephalopathy?

Concerning the initial fall, did the patient lose consciousness, did she experience a tongue bite, or did she experience a secessus urinae/alvi? What were the results of the EEG? Did the patient always experience seizures during SLEs? Were antiepileptic drugs administered? Were other causes of the fall excluded?

Overall, this interesting case should be supplemented by results about the heteroplasmy in more than a single tissue, long-term ECG results, and the medication she was taking at last follow-up.

## References

- [1] T. Thomas, W.J. Craigen, R. Moore, R. Czosek, J.L. Jefferies, Arrhythmia as a cardiac manifestation in MELAS syndrome, *Mol. Genet. Metab. Rep.* 4 (2015) 9–10.
- [2] A. Taniguchi, T. Kitagawa, S. Kuzuhara, MELAS sudden death due to paroxysmal arrhythmia, *Nihon Rinsho* 60 (Suppl. 4) (2002) 606–609.
- [3] H. Cheng, M. Lu, C. Hou, X. Chen, L. Li, J. Wang, G. Yin, X. Chen, W. Xiangli, C. Cui, J. Chu, S. Zhang, S.K. Prasad, J. Pu, S. Zhao, Comparison of cardiovascular magnetic resonance characteristics and clinical consequences in children and adolescents with isolated left ventricular non-compaction with and without late gadolinium enhancement, *J. Cardiovasc. Magn. Reson.* 17 (2015) 44, <http://dx.doi.org/10.1186/s12968-015-0148-7>.
- [4] J. Finsterer, Cardiogenetics, neurogenetics, and pathogenetics of left ventricular hypertrabeculation/noncompaction, *Pediatr. Cardiol.* 30 (2009) 659–681.
- [5] J. Finsterer, Stroke and stroke-like episodes in muscle disease, *Open Neurol. J.* 6 (2012) 26–36.

Josef Finsterer

Krankenanstalt Rudolfstiftung, Vienna

Corresponding author at: Postfach 20, 1180 Vienna, Austria.

E-mail address: [fifigs1@yahoo.de](mailto:fifigs1@yahoo.de).

Sinda Zarrouk-Mahjoub

Genomics Platform, Pasteur Institute of Tunis, Tunisia

27 March 2016