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Letter to the Editor

Heart transplantation for MELAS is doable but pros and cons have to be weighted carefully

[1] Josef Finsterer, [2] Sounira Mehri
[1] Neurology & Neurophysiology Center, Vienna, Austria
[2] Biochemistry Laboratory, LR12ES05 "Nutrition-Functional Foods and Vascular Health", Faculty of Medicine, Monastir, Tunisia

Corresponding Author: **Josef Finsterer**

We read with interest the article by de Toro *et al*. about 14 patients with mitochondrial encephalopathy lactic acidosis and stroke-like episodes (MELAS) and cardiomyopathy, 10 of whom were potential candidates for heart transplantation (HTX), but none underwent HTX [1]. During the follow-up of five years 10/14 patients died from heart failure [1]. The study is appealing but raises concerns that should be discussed.

We disagree with the diagnosis "MELAS" in the 14 included patients. MELAS is usually diagnosed according to the Hirano or Japanese criteria [2, 3]. According to the Hirano criteria, MELAS is diagnosed when a stroke-like episode (SLE) before age 40, seizures, dementia, or both, and lactic acidosis, ragged red fibres (RRFs), or both are present. If there is also normal early development, headache, or vomiting the diagnosis is confirmed [2]. According to these criteria and the information provided, none of the 14 patients had MELAS. It should be noted how many had SLEs, the hallmark of MELAS. According to table-1, only one patient had seizures and only 12 had mitochondrial myopathy [1].

We disagree with the classification of hemianopia, and cortical blindness as ocular manifestations of MELAS [1]. Both are typical central nervous system (CNS) manifestations. We also disagree with the classification of ophthalmoparesis as ocular manifestation. Ophthalmoparesis represents muscle but not eye involvement.

There is a discrepancy between the text and the "central illustration" [1]. According to the main text, 14 MELAS patients were included, but the figure shows that 16 had muscle, auditory, endocrine, bone, and biochemical involvement. This discrepancy should be resolved.

There is also a discrepancy between the statement in the results section that none of the 14 patients had a prior MELAS diagnosis and the finding that heteroplasmy was up to 90% [1]. In patients with high heteroplasmy in lymphocytes, the m.3243A>G variant can be expected to manifest with the full MELAS phenotype.

It should be explained why cognitive impairment in patient-1 was classified as a comorbidity and not as CNS involvement. Why was arterial hypertension classified as comorbidity and not as manifestation of the mitochondrial disorder (MID)? Hypertension is an increasingly recognized manifestation of MIDs [4].

A limitation of the study is that the term "progressive encephalopathy" was not defined. It should be clarified whether it means seizures, dementia, both, or something else.

Overall, the interesting study has limitations that challenge the results and their interpretation. Addressing these limitations could further strengthen and reinforce the statement of the study.

Declarations

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Consent to participate: Was obtained from the patient.

Consent for publication: Was obtained from the patient.

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Code availability: Not applicable.

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