Mitochondrial vasculopathy due to the m.3243A > G mutation is not restricted to the carotid artery

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With interest we read the article by Mancuso et al. about two unrelated, adult females carrying the m.3243A>G mutation, in whom carotid-artery-dissection was regarded as a manifestation of the genetic defect [1]. We have the following comments and concerns.

Mitochondrial vasculopathy is well appreciated and may not only manifest as migraine, stroke-like-episode, rupture of the aorta, or carotid-artery-dissection or occlusion, but also as atherosclerosis, vascular leucencephalopathy, vascular retinopathy, ectasia of the aortic-root or of cerebral vessels, or as aneurysm formation [2].

In addition to the present cases and the case by Ryther et al. 2011, mitochondrial carotid-artery-dissection was reported by Kalashnikova et al. 2012 [3] and by Sakharova et al. 2012 [4].

It is extremely unusual that cerebral MRI was normal, in the acute stage in patient-1 [1]. Were DWI, ADC, and PWI images carried-out? Usually, acute high-grade carotid-artery-stenosis or occlusion results in ischemic stroke with hyperintensity on DWI, hypointensity on ADC, hyperintensity on T2 and hypoperfusion of PWI. Was MRS carried out to see if CSF lactate was elevated?

Dissection is not convincing on conventional carotid angiography [1]. Were also T1-weighted transverse sections with contrast medium carried out to confirm the presence of two lumina? Could the occlusion be due to acute cardiac embolism? Were patients screened for cardiac involvement, frequently found in MELAS? Was ever paroxysmal atrial-fibrillation recorded on ECG? Was there noncompaction on echocardiography as a source of embolism? Patient-2 had bilateral dissection but only left-sided stroke [1]. How do the authors explain this discrepancy?

Concerning treatment of ischemic stroke, we should be informed if both patients underwent acute systemic thrombolysis, acute stenting, or mechanical thrombus extraction? Which was the outcome?

Overall, essential supplemental information is required to assess if stroke was truly ischemic and due to the dissection. The association between m.3243A>G and carotid-artery-dissection remains vague.

Conflict of interest

There are no conflicts of interest.

Contribution

Both authors contributed equally.

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