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Letter

Neuropathy due to impaired axonal transport of non-fragmented mitochondria in *MYH14* mutation carriers—Authors' reply

Gerald Pfeffer[a,c], A. Micheil Innes[a,c], Timothy E. Shutt[a,b,c,*]

[a] Alberta Children's Hospital Research Institute, Department of Medical Genetics, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada
[b] Department of Biochemistry & Molecular Biology, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada
[c] Hotchkiss Brain Institute, Department of Clinical Neurosciences, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada

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We appreciate the interest in our work and the opportunity to discuss the diagnosis of peripheral neuropathy in the new family we describe [1]. While a nerve biopsy would have added to the evidence available regarding these cases, the hereditary neuropathy diagnosis was established based on the clinical picture, neurophysiology and family history (provided in detail in Supplemental Table 2 [1]). Subsequently, exome sequencing identified the *MYH14* p.R941L mutation in all affected individuals. As the R941L mutation was previously associated with axonal neuropathy [2,3], it was not considered necessary to include a nerve biopsy for clinical purposes, especially as this procedure is invasive and frequently has unpleasant permanent side-effects [4].

The neuropathy was classified as axonal based upon the following: (a) predominantly small-fibre sensory loss, (b) absence of significant conduction velocity defect, (c) predominance of motor findings on neurophysiology, and (d) consistency with previously described cases with this mutation [2,3]. Since the publication of our work, we have obtained access to additional clinical records. Nerve conduction studies (NCS) performed in IV-1 at age 15 demonstrated CMAP reduction in distal legs with preserved conduction velocity, and normal sensory responses, indicating motor axonal polyneuropathy.

Regarding the hearing loss, we agree that evoked potentials may have aided to further characterise these patients. Nonetheless, audiometric evaluations in IV-1 and IV-2 confirmed that hearing loss preceded clinical weakness in these participants, and likely represents phenotypic variability of *MYH14*-related disorders. It should be noted that several loss of function mutations in MYH14 are associated with non-syndromic sensorineural hearing loss without any peripheral neuropathy or reported mitochondrial dysfunction [5]. Given that the NMIIC protein encoded by MYH14 has many cellular functions, it is possible that the mechanistic underpinnings of hearing loss are independent of the underlying cause of the peripheral neuropathy associated with the R941L mutation.

Declaration of Competing Interest

The authors have nothing to disclose.

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* Corresponding author.
E-mail address: timothy.shutt@ucalgary.ca (T.E. Shutt).

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