LETTER TO THE EDITORS



Electrocochleography (EcochG) for the diagnosis of cochlear endolymphatic hydrops

Jeremy Hornibrook¹

Received: 3 January 2023 / Accepted: 11 January 2023 / Published online: 16 January 2023 © The Author(s), under exclusive licence to Springer-Verlag GmbH Germany 2023

Dear Sirs,

I wish to comment on the recent article by Chen et al. [1] Vestibular migraine or Meniere's disease: a diagnostic dilemma. It is an attempt to review the various electrophysiological tests that might distinguish the two conditions. The section on electrocochleography (EcochG) merits comment. It concentrates on five EcochG studies employing a remote electrode and a click stimulus. There is misleading statement referenced to a comprehensive review of the history of the EcochG and the insensitivity of a click stimulus [2].

It has been exhaustively demonstrated that responses from a remote (eardrum) electrode are significantly smaller than those from a direct electrode. In addition, the diagnostic sensitivity for cochlear hydrops is vastly inferior to tone bursts whose responses cannot reliably be measured by a remote electrode. That audiologists have not employed a tone burst stimulus EcochG seems to be that it requires special cooperation and customized equipment that standard commercial systems used by audiologists cannot deliver. This information has been reviewed in detail [2–4]. The variation

in EcochG techniques and results have likely impeded progress on the objective diagnosis of Meniere's disease and its distinction from vestibular migraine for at least 20 years.

Declarations

ConflictS of interest The author has no financial interests or ethical conflicts of interest regarding this submission.

References

- Chen J-Y, Zao-Qui G, Wang J, Liu D, Tian E, Guo J-q, Kong W-J (2022) Vestibular migraine or Meniere's disease: a diagnostic dilemma. J Neurol. https://doi.org/10.1007/s00415-022-11532-x
- Hornibrook J (2017) Tone burst electrocochleography for the diagnosis of clinically certain Meniere's disease. Front Neurosci. https://doi.org/10.3389/fnins.2017.00301
- Hornibrook J (2016) Electrocochleography for the diagnosis of Meniere's disease: the wrong stimulus. Otol Neurotol 136:1677–1678
- Hornibrook J, Gourley J, Vraich G (2020) Tone burst electrocochleography disproves a diagnosis of Meniere's disease treated aggressively. HNO 68:352–358



Department of Otolaryngology-Head and Neck Surgery, Christchurch Hospital, Christchurch 8011, New Zealand