Author’s response to reviews

Title: Clinical value of vestibular-evoked myogenic potential tests in patients with sudden sensorineural hearing loss

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Reply to reviewers’ comments

Reviewer reports:
Tommaso Bocci (Reviewer 1):

The paper by Wang and colleagues highlights novel insights into the role and clinical usefulness of peri-ocular and vestibular myogenic potentials. The paper reports novel findings about the sudden hearing loss, a very common clinical condition, with a huge number of possible misdiagnoses.

The paper is well written and the Methods seem sound. However, the Authors should address some critical questions to improve the quality of their paper:

Comments 1: First of all, the Authors did not perform brainstem auditory evoked potentials in the cohort study. Is there any reason for this?

Reply: Thanks! The aim of this study was to investigate the clinical value of two kinds of vestibular-evoked myogenic potentials (cVEMP and oVEMP) in patients with sudden sensorineural hearing loss. BAEP is a meaningful method to diagnose SSNHL. But the patients enrolled in this study had been diagnosed as SSNHL before the study was carried out.

Comments 2: The demographic features of the sample is not clear at all. That could influence data in terms of VEMP latencies and amplitudes; moreover, old patients commonly suffer from vertigo, likely due to transient infections of the utricular component of vestibular system.

Reply: Thanks! The demographic features are summarized in table 1.
Comments 3: Apart from "patients with recurrent vertigo" (What does it mean "recurrent"?), both exclusion and inclusion criteria are not clear. Did the subjects perform a CT scan before the enrollment? Did they perform an ultrasound evaluation of both intra- and extracranial vessels? In this connection, the quoted phrase "All subjects had no disease ... space occupying lesions" (page 8, lines 31-36) should be moved into the Methods section and specified in detail.

Reply: Thanks! “patients with recurrent vertigo” means “patients with relapsed vertigo”. The sentence “All subjects had no disease ... space occupying lesions” has been moved into the methods section.

Comments 4: In the paper I've read there's no figure, but one table only. VEMPs traces are mandatory to support results.

Reply: Thanks for your suggestion! The figures and the figure legends have been added in the manuscript.

Comments 5: Is there any relationship between the neurophysiological outcome and others parameters, as caloric testings, patients' age, duration of the disease?

Reply: Thanks for your suggestion! The relationship between the neurophysiological outcome and others parameters was not discussed in this study. We will detect this relationship in our further study with a larger sample size.

Ryhoei Oya (Reviewer 2):

The study was well designed and performed. The vestibular or otolithic dysfunction were found in SSNHL patients with vertigo compared to those without vertigo. However, this finding is not so novel and expected naturally. Furthermore, there are several points to be emphasized or corrected to be published. I think that your study is not suitable for this high impact journal.

I think if it is helpful for your re-submission, and I wrote several opinions.

Comments 1: You collected patients with vertigo. This vertigo means only a symptom based word? Patients with vertigo did show nystagmus, and those without vertigo did not? We often experienced patients without vertigo showed nystagmus, catch up saccade, or canal paresis.

Reply: Thanks! All patients in the vertigo group exhibited nystagmus and the pattern of nystagmus did not change during the disease course. We have added this information in the methods section.

Comments 2: Healthy controls were included. The age was matched with patients group? The otolithic function will change by ages.

Reply: Thanks! Among the 30 healthy subjects, 16 subjects were male and 14 subjects were female. And the age of these healthy subjects ranged within 22-48 years old.

Comments 3: The methods of VEMPs are appropriate. But it is necessary to describe the detail. It is almost same in the previous articles.

Reply: Thank you! The methods of VEMPs have been modified.
Comments 4: You need to insert the table which clearly describe the patients' profile.
Reply: Thank you! The demographic features are summarized in table 1

Comment 5: You present the results of VEMPs in figures.
Reply: Thanks for your suggestion! The figures and the figure legends have been added in the manuscript.

Comments 6: Amplitude asymmetry means AR? You should unify the expression to avoid confusion.
Reply: Thanks! AR means asymmetry ratio in this study. We have added this information in the methods section.