

Jin-Lei Wang, Director, Editorial Office
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Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: Revised Manuscript.doc).

Title: Surface electromyography for diagnosing dysphagia in patients with cerebral palsy

Author: Fan-Fei Tseng, Shu-Fen Tseng, Yu-Hui Huang, Chun-Ching Liu, Tung-Hua Chiang

Name of Journal: *World Journal of Gastroenterology*

ESPS Manuscript NO: 2074

The manuscript has been improved according to the suggestions of reviewers:

1. Format has been updated
2. Revision has been made according to the suggestions of the reviewers. The reviewer suggestions and our replies appear at the end of this letter.
3. References and typesetting were corrected

Thank you again for publishing our manuscript in the *World Journal of Gastroenterology*.

Sincerely yours,

Dr. Chiang

Responses to reviewer comments

GENERAL COMMENTS

(1) Importance and significance of the research; novelty and innovation

- a. In this paper the authors evaluate sEMG as a new helpful tool for the screening and early diagnosis of dysphagia in patients with cerebral palsy: the conclusion of the authors is that sEMG may be useful in the diagnosis of OPD. Evaluation of OPD due to brainstem stroke by sEMG was already reported, but this paper is the first to assess sEMG as a screening tool in cerebral palsy.
- b. The issue considering sEMG simpler, faster, and at lower cost than video fluoroscopic study is questionable and should be confirmed in further studies.
- c. Apart these concerns, sEMG may indeed be proposed as a tool to screen patients with possible OPD but the doubts if this will be a sufficient assessment and if patients will need further diagnostic procedures to confirm the diagnosis, may reduce its cost-benefit.

(2) Presentation and readability

- a. The paper is well presented and written in a good English

(3) Ethics of the research

- a. No concerns about ethical issues

Author Response: Thank you for your kind comments and support of our work.

SPECIFIC COMMENTS Title:

It reflects contents of the study.

Abstract: It gives a clear explanation of the research.

Materials and methods: A detailed description of the methods and of the statistical evaluation is provided. There are concerns about the small sample size and about the control group, as stated by the authors in the paragraph regarding limitations of the study.

Results: The results provide sufficient evidence or data to draw the conclusion of the authors.

A description of the fluoroscopic evaluation that has been performed in all patients of the study and a comparison with sEMG (may be in a table) would give more strength to the study.

Author Response: Thank you for your comment. We scored the DOSS (Dysphagia Outcome and Severity Scale) according to the videofluoroscopic evaluation. Thus, the DOSS results are representative of the videofluoroscopic evaluation. DOSS results have been added to Table 1, and the distribution of DOSS results has been described in the 'demographic

characteristics section. Additionally, we also compared the correlation between DOSS and sEMG results in Table 3.

A detailed report of dysphagia score of patients with OPD would be quite helpful.

Author Response: DOSS results have been added to Table 1, and the distribution of DOSS results has been described in the 'demographic characteristics section.

Presumably this group is not homogeneous from this point of view and likely sEMG could be more reliable in some subgroups.

Author Response: We certainly agree that it would be desirable to perform subgroup analysis. However, subgroup analysis cannot be performed due to the small sample size. We have included this point as a limitation of the study.

With a sensitivity rate of 85% and positive predictive value of 73.9% it may be doubtful to consider sEMG as the gold standard for the diagnosis of OPD.

Author Response: As we stated in the Introduction, the current gold standard for diagnosing OPD is video fluoroscopic study of swallowing (VFSS). It is necessary to develop an alternative choice for diagnosing OPD because of the limitations of VFSS (e.g., radiation exposure, cost). Although our results indicate that the diagnostic performance of sEMG is not good enough to replace the VFSS, sEMG can be considered as an initial screening tool due to its non-invasive nature and low cost. As the first clinical study to apply sEMG for detecting OPD in cerebral palsy, we believe the results demonstrate the feasibility of using sEMG as a screening method and can be a reference for further investigation of the method in patients with cerebral palsy.

Discussion: Well organized. Conclusions are acceptable. See above References: References are appropriate and updated. Tables and figures: Tables concerning fluoroscopy and dysphagia scores would be welcomed

Author Response: Thank you for your comment. Tables have been updated as described above.