

Response to the Reviewers' Comments

Manuscript number: 6aaf4029-7dbb-415d-a07a-31d3c0216242

Title: Infarction in Bilateral Corona Radiata Presented as Unilateral Peripheral Facial Paralysis: a Case Report

Dear Editors and Reviewers,

We are grateful for the opportunity to revise our manuscript titled “**Infarction in Bilateral Corona Radiata Presented as Unilateral Peripheral Facial Paralysis: a Case Report**”(ID: 6aaf4029-7dbb-415d-a07a-31d3c0216242), we sincerely appreciate the insightful and constructive comments provided by the reviewers. These comments are highly valuable and helpful for revising and improving our manuscript, as well as the important guiding significance to our study. Below, we provide detailed responses to each of the reviewers' comments. Furthermore, we have conducted a thorough revision of the entire manuscript. In this response letter, the reviewers' comments are presented in *Italics*, and our corresponding revisions and additions to the manuscript are highlighted in red text. We have made every effort to ensure that all the revisions are clear and precise, and we hope that the revised manuscript now meets the requirements for publication.

Reviewer 1:

Comment 1: *The authors suggest that bilateral ischemic lesions in the corona radiata resulted in right facial palsy. However, based on the current documentation, this conclusion appears inadequate. As the authors acknowledge, peripheral facial palsy due to central nervous lesions typically arises from the facial nerve nucleus or proximal lesions affecting the facial nerve. A gadolinium-enhanced brain MRI may help clarify this issue.*

Response 1: Thank you for your valuable comment. Upon receiving your valuable comment, we conducted a thorough reevaluation of the patient's medical history and identified that one week prior to admission, the patient exhibited peripheral facial palsy (PFP)-like symptoms, including right lagophthalmos, deviation of the oral

commissure to the right, and diminished right frontal wrinkles. Additionally, the patient reported left lower limb weakness only 14 hours before admission. By integrating the initial CT and MRI findings with subsequent needle electromyography (EMG) results, we concluded that the PFP-like symptoms were most likely caused by bilateral corona radiata infarction.

Comment 2: *A more detailed discussion regarding the underlying mechanism of unilateral peripheral facial palsy secondary to bilateral corona radiata lesions is needed. Is there any evidence to support the authors' speculations?*

Response 2: Thanks for your essential comment. In response, we reevaluated the patient's medical history as detailed in **Comment 1 & Response 1**, and tried our best to contact the patient for further examinations. Unfortunately, the patient declined to answer our calls, resulting in a loss of contact. Consequently, the intrinsic mechanism of the PFP-like manifestations secondary to bilateral corona radiata infarction could not be further explored. We sincerely apologize for this oversight in our research and plan to conduct more in-depth studies in the future. Additionally, the limitations of the study have been outlined in a dedicated section **prior to the "Conclusion" section.**

(Line 162-167, Page 9-10)

Comment 3: *The authors state that electromyography supported the diagnosis of central facial paralysis. However, was a nerve conduction study (NCS) the only investigation performed? Since NCS cannot effectively assess lesions proximal to the stimulation site, was needle EMG conducted?*

Response 3: We sincerely appreciate the valuable feedback provided by the reviewer. In response to the potential confound that the examination conducted on the patient at that time was indeed needle EMG. Consequently, we have revised the descriptions related to nerve conduction studies (NCS) in the following sections: **Abstract (Line 11, Page 1), Introduction (Line 25, Page 1), Case Presentation (Line 91, Page 5) and Discussion (Line 108, Page 6 & Line 131, Page 7).**

Comment 4: *The core focus of this case study is peripheral facial palsy. If informed consent was obtained, I recommend adding a supplementary picture of the patient's face to better illustrate the facial palsy.*

Response 4: We sincerely appreciate your valuable feedback. However, the patient declined to provide the picture of their face owing to concerns regarding personal privacy. We extend our deepest apologies for any inconvenience this may have caused to the reviewers.

Comment 5: *In Figure 1, the diffusion-weighted imaging (DWI) and apparent diffusion coefficient map appear almost identical. Please verify that the correct DWI images have been included in the manuscript.*

Response 5: Thanks for the valuable comment. We apologize for our carelessness. In accordance with the suggestions from the Reviewer 1 & Reviewer 2, we have now revised the DWI images presented in **Figure 3 (Line 60-61, Page 4)**. Additionally, we have included the initial CT scan as **Figure 2 (Line 47-49, Page 3)** for further clarification.

Comment 6: *I suggest revising the manuscript for better clarity and coherence. Reorganizing certain sections and improving the flow of information may enhance readability.*

Response 6: Thank you for your suggestion. We have made every effort to improve the manuscript and implemented revisions across all paragraphs. These modifications will not affect the content or framework of the paper. We sincerely appreciate your diligent work and hope that the corrections meet with your approval.

Reviewer 2:

Comment 1: *Please follow the CARE guideline carefully.*

Response 1: We sincerely appreciate the reviewer for drawing our attention to this matter. Furthermore, we have meticulously adhered to the CARE guideline and thoroughly revised the entire manuscript. The timeline has been presented as **Figure 1**

(Line 30-31, Page 2) in our revised manuscript. We trust that these corrections will fulfill the requirements.

Comment 2: *Please give the figure initial CT scan.*

Response 2: Thank you for your insightful suggestion. We concur with the reviewer's opinion that including an additional figure of the initial CT scan, as depicted in **Figure 2 (Line 47-49, Page 2)**, would significantly enhance the quality of the manuscript.

Comment 3: *It is brain stem stroke syndrome ? This case showed combination of ipsilateral facial nerve deficits and contralateral hemiparesis or hemisensory loss, depending on the specific area of the brainstem affected.*

Response 3: Thank you for raising this important question. We have consulted with the radiologist from the radiology department of our hospital regarding this matter. Given that no significant abnormalities were detected in the brainstem, particularly in the pons (**Figure 6, Line 103-105, Page 6 in our new manuscript**), during the patient's plain cranial MRI scan (3.0T), the possibility of an ischemic stroke in the brainstem can be ruled out.

Comment 4: *Do the authors have the data of MRA or angiography.*

Response 4: Thank you for raising this important question. We have reviewed the cranial MRA data (**Figure 4, Line 62-64, Page 4 in our new manuscript**), which did not reveal any significant abnormalities. Nevertheless, we sincerely appreciate the reviewer's attention to this matter and acknowledge the importance of addressing it.

Comment 5: *Please begin the discussion with the highlight and main finding in this case report.*

Response 5: Thanks for your valuable suggestion. We have revised the **"Discussion"** section of our manuscript, placing the key highlights and main findings **in the first paragraph** of this section. (**underlined in Line 107-111, Page 6-7**) We hope that these revisions will meet with your approval.

Comment 6: *There is many similar case reports. Please highlight the uniqueness of your case report.*

Response 6: Thank you for your valuable feedback. On the fifth day following the patient's admission, we confirmed through needle electromyography (EMG) that the peripheral facial paralysis (PFP)-like symptoms were likely attributable to cerebral infarction in the brain. Additionally, no lesions in the brainstem, particularly ischemic infarctions, were identified via CT and MRI scans. Consequently, we believe that the diagnostic and therapeutic process in this case is noteworthy and serves as a reminder for clinicians to conduct thorough diagnoses and timely, comprehensive evaluations.
(as described in Line 28-29, Page 1)

Comment 7: *The conclusion should be concise and clear.*

Response 7: Thank you for your valuable feedback. As per the reviewers' suggestions, we have streamlined our conclusion. Additionally, in accordance with the Editor's recommendations, we have revised the overly exaggerated statements in the conclusion to ensure accuracy and appropriateness. (Line 169-171, Page 10)

Reviewer 3:

We are very grateful for your positive comments!

We made every effort to enhance the manuscript by implementing certain changes that do not affect its content or framework. Additionally, we submitted the manuscript to experts for language refinement, and the revised version has significantly improved. We sincerely appreciate the diligent work of the Editors and Reviewers and hope that the revisions meet with their approval.

Best Wishes!

Sincerely,

Original submitting author: ZHENGHUA GAO

E-mail: drgao1999@163.com