

## PEER-REVIEW REPORT

**Name of journal:** World Journal of Clinical Cases

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**Title:** Recovery from prolonged disorders of consciousness: A dual-center prospective cohort study in China

**Reviewer's code:** 05233688

**Position:** Associate Editor

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**Professional title:** Assistant Professor

**Reviewer's Country/Territory:** Italy

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**Reviewer chosen by:** Ying Dou

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<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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## **SPECIFIC COMMENTS TO AUTHORS**

The authors deal with a intriguing and timely topic, which is the identification and assessment of factors underlying the recovery from prolonged disorders of consciousness (DoC). For this purpose, they performed a dual-center prospective cohort study in China and concluded that even severe DoC patients may recover. Notably, and maybe surprisingly, the recover occurred without distinction for age, etiology, duration, and extent of DoC, as well as even in the presence of strong predictors of poor prognosis. These results, if confirmed by further independent investigations, would shed lights on the clinical and pathophysiological basis of DoC, also providing new diagnostic and prognostic findings not only in Chinese people but also in the population worldwide. Overall, the paper is nicely conceived and designed; the results seem to be consistent and are adequately illustrated and discussed. However, there are some concerns needing attention and revision. **MAJOR - General:** the conclusions reached in this study seem to be quite strong and maybe misleading. I invite the authors to be more cautious in lights of the results of their study and the previous literature. Therefore, Abstract, Core tip, Discussion, and Conclusions should be revised accordingly. Additionally, the possible mechanisms (why and how) accounting for the recovery from severe DoC need to be better highlighted. **- Introduction:** although the study aim and rationale have been stated, the experimental hypothesis is lacking (i.e. what do you expect for this study and why?). **- Materials and Methods (Study design and participants):** among the inclusion/exclusion criteria, the possibility of metabolic, inflammatory/autoimmune, and infectious causes of DoC should be mentioned. **- Materials and Methods (Definition and measure of outcome):** in addition to clinical findings, the diagnostic and prognostic role of instrumental exams, especially neurophysiological (i.e. EEG and multimodal evoked potentials), is missing (Daubin C, et al. BMC Cardiovasc Disord 2008).

Additionally, motor evoked potentials are useful in the prediction of the post-comatose recovery of motor function (Rohde V, et al. Acta Neurochir 1999), especially when they are adjusted for physical variables (Cantone M, et al. Front Hum Neurosci 2019). Moreover, given their relevant prognostic value, the findings of the neurological examination in DoC should be provided (Sandroni C and D'Arrigo S. Semin Neurol 2017). - Results: there is a quite large amount of variability in the different variables considered in the study, e.g. median follow-up (12-37 months), post-injury interval range (28-634 days), CRS-R total score (0-17), mean age (7-85 years), and DoC etiology. Regarding stroke, it seems that ischemic and hemorrhagic strokes have been considered together, despite their significantly different etiology, location, severity, and outcome. I wonder whether this heterogeneity may have affected the reliability and the reproducibility of the results. - Discussion: the authors stated that "patients in MCS and VS/UWS should not be pooled for prognostic purposes." Why? Maybe this would have disclosed additional findings, possibly remodeling the conclusions. MINOR - General: please fully write the abbreviations before using the acronyms (e.g. EMCS in the Abstract, HIE in the Results, etc.). - Discussion: the first two sentences are redundant and, therefore, can be removed. - Conclusion: please replace "In conclusions, We present..." with "In conclusion, we present..."; few lines below, use "DoC" instead of "DOC".