

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Stem Cells*

**Manuscript NO:** 74063

**Title:** Treatment of syringomyelia by Chiari malformations using uncultured umbilical cord-derived mesenchymal stem cells: A case report

**Provenance and peer review:** Unsolicited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 06190776

**Position:** Peer Reviewer

**Academic degree:** MD, PhD

**Professional title:** Associate Professor, Chief Physician, Deputy Director, Doctor

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

**Author's Country/Territory:** South Korea

**Manuscript submission date:** 2021-12-13

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2021-12-15 10:48

**Reviewer performed review:** 2021-12-28 11:01

**Review time:** 13 Days

<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 Grade E: Do not publish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 checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<b>Peer-reviewer statements</b>	Peer-Review: [ <input checked="" type="radio"/> ] Anonymous [ <input type="radio"/> ] Onymous Conflicts-of-Interest: [ <input type="radio"/> ] Yes [ <input checked="" type="radio"/> ] No
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### **SPECIFIC COMMENTS TO AUTHORS**

In this case report, the authors tried to illustrate the treatment using uncultured umbilical cord-derived mesenchymal stem cells with a syringomyelia patient, which could be a new treatment alternative for syringomyelia. However, there are major specific points in this manuscript as shown in following comments: 1.Regarding treatment effect, it is recommended to add the Magnetic resonance imaging of the patient in May, 2016 before the stem cell treatment, which could draw a scientific conclusion. 2. Cerebrospinal fluid pressure measurement should be studied in this work.

3. In the aspect of treatment, How to exclude the failure for the surgery for the patient in 2010 if there were no evidences for the image and cerebrospinal fluid pressure measurement after surgery and before the cord-derived mesenchymal stem cells treatment? 4. What is the basis for the dose of the stem cell therapy?

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**Peer-review model:** Single blind

**Reviewer's code:** 05817430

**Position:** Peer Reviewer

**Academic degree:** PhD

**Professional title:** Academic Research, Research Scientist

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

**Author's Country/Territory:** South Korea

**Manuscript submission date:** 2021-12-13

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2021-12-29 04:35

**Reviewer performed review:** 2022-01-08 09:11

**Review time:** 10 Days and 4 Hours

Scientific quality	<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
Language quality	<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
Conclusion	<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
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<b>Peer-reviewer statements</b>	Peer-Review: [ <input checked="" type="radio"/> ] Anonymous [ <input type="radio"/> ] Onymous Conflicts-of-Interest: [ <input type="radio"/> ] Yes [ <input checked="" type="radio"/> ] No
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## SPECIFIC COMMENTS TO AUTHORS

In detail, the method of study and paper is well done and interesting. But, I have some comments to improve the paper which are listed as follows: -There are some scientifically/ grammatically errors in the paper. Please control the text in that manner. -The "abstract" should be modified and written scientifically. -The keywords should be modified as follows: Syringomyelia; Umbilical cord-MSCs; Cell therapy; Allogenic stem cells; Chiari malformation -Discussion part should be rewritten more comprehend. -Figures 1 & 2 should be merged and the authors should be show the difference between before and after cell therapy.

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**Provenance and peer review:** Unsolicited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 04738361

**Position:** Peer Reviewer

**Academic degree:** PhD

**Professional title:** Director, Research Scientist

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

**Author's Country/Territory:** South Korea

**Manuscript submission date:** 2021-12-13

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2021-12-29 09:36

**Reviewer performed review:** 2022-01-09 12:32

**Review time:** 11 Days and 2 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input checked="" type="checkbox"/> Grade A: Priority publishing <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<b>Peer-reviewer statements</b>	Peer-Review: [ <input type="checkbox"/> ] Anonymous [ <input checked="" type="checkbox"/> ] Onymous Conflicts-of-Interest: [ <input type="checkbox"/> ] Yes [ <input checked="" type="checkbox"/> ] No
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## SPECIFIC COMMENTS TO AUTHORS

Manuscript ID 74063 describes the effectiveness of UC-MSCs in the treatment of syringomyelia by Chiari malformations. In this case report study, the authors have used MSCs initially as a pain relief therapy but they observed the treatment of syringomyelia. Generally, the manuscript is clear and well written. The case is well explained and the authors are honest that the observed effects were not expected. Although this manuscript is very interesting the following points should be clarified before its potential publication. 1) In the introduction section, several references are missing. E.g. page 5 middle paragraph. 2) I have some concerns regarding the term uncultured and the number of MSCs. The authors mentioned that the administered MSCs were uncultured, yet, they have injected 5 times and each time 3M/ml (10 ml in total per injection) which is 30 million cells per injection. This is just impossible to have that many cells in P0 directly from the isolation step. 3) What was the weight of the patients and how did the authors evaluate how many cells to inject? 4) The fifth injection of MSCs happened later, did they use the same donor as the first four injections? If it as the first donor, then it makes it even more impossible that the cells were uncultured. 5) It is not clear for me when the authors write, the 110 ml of solution were injected first and after a 1-hour break the same amount was injected. So 2 times 30 million cells? Even the table does not help me to understand this point. 6) Why did the authors use UC source of MSCs? Why not bone marrow or adipose-derived MSCs? Several articles demonstrate that the source of MSCs can have different regenerative and immunological impacts. E.g. PMID:33597011 and 34567420 Please discuss this point.

## RE-REVIEW REPORT OF REVISED MANUSCRIPT

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**Reviewer's code:** 04738361

**Position:** Peer Reviewer

**Academic degree:** PhD

**Professional title:** Director, Research Scientist

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

**Author's Country/Territory:** South Korea

**Manuscript submission date:** 2021-12-13

**Reviewer chosen by:** Jia-Ru Fan

**Reviewer accepted review:** 2022-03-03 12:32

**Reviewer performed review:** 2022-03-03 12:38

**Review time:** 1 Hour

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input 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 checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Peer-reviewer</b>	Peer-Review: <input type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous



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statements

Conflicts-of-Interest: [ ] Yes [Y] No

## **SPECIFIC COMMENTS TO AUTHORS**

The authors have addressed most of my concerns. I have no more comments.