Reviewer’s report

Title: Benefits of starting hypothermia treatment within 6 hours vs. 6-12 hours in newborns with moderate neonatal hypoxic-ischemic encephalopathy

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Reviewer: Samuel Adegoke

Reviewer's report:

Beginning hypothermia treatment within 6 and 12 hours in newborns with moderate neonatal hypoxic-ischemic encephalopathy is likely to remain effective.

General comments: This study determined the relevance of therapeutic hypothermia in babies with perinatal asphyxia if started a little longer than the traditional 6 hours (i.e. within 6 - 12 hours). They concluded that in babies with moderate HIE, starting therapeutic hypothermia <6h and 6 ~12h hypothermia showed curative effects, but in those with severe HIE, it was only beneficial if started within 6h. These findings have a lot of clinical implications in the management of this group of babies.

The design was also fairly done to achieve the objective.

Specific comments:

1. A great deal of editorial (language/ grammar) is needed for better understanding of the article.

2. Abstracts: Abbreviations in the abstracts must be defined.

3. Introduction:

   a. Authors should discuss why therapeutic hypothermia is more effective if started within 6 hours after delivery. What is special about 6 hours?

   b. Apart from delay presentation, what other reasons may make this golden hour impossible in your clinical setting? These will further justify this study.

4. Methods:

   a. Please state the exclusion criteria.

   b. How was HIE (hypoxic-ischaemic encephalopathy) defined in this study?
c. How was HIE classification done? What criteria were used in the classification?

d. How were the babies assigned to treatment arms? That is, what was the basis for assigning some babies into the hypothermia group and others into control group?

e. What precautions were taken while doing aEEG and NSE?

5. Results: What does "5 min grade" represent? (First paragraph under Patient baseline characteristics). This should be described in the methods.

6. Discussion: The first four paragraphs were merely literature review, and NOT discussion 'per se'. I think authors should re-write this section to reflect discussion of their findings.

7. Conclusion: The statement that "aEEG and NSE can be used as monitoring indexes for disease severity in children with HIE" is conjectural. This study did not verify that.

8. Tables:

a. Table 2 - Please indicate what F and X represent as footnotes.

b. Table 3 - It is difficult to comprehend because of too many information. I suggest that the table should be split into two. One for ΔaEEG and the other for ΔNSE.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

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Not suitable for publication unless extensively edited

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