Author's response to reviews

Title: A case of osmotic demyelination syndrome occurred after the correction of severe hyponatraemia in hyperemesis gravidarum

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Author's response to reviews: see over
REPLIES TO REVIEWER 1

We thank very much the reviewer for the helpful comments and suggestions. Accordingly, we pointed out that the main focus of the manuscript is the mismanagement of the patient. Throughout the text we made changes in order to highlight the errors made in the management of the patient, considering that hypokalemia was an additional factor risk for ODS. In contrast, the previous comments regarding the fact that ODS following overcorrection of hyponatremia with isotonic saline does not occur frequently have been omitted, in agreement with the personal experience of the reviewer.

In particular changes (in red) are present in
- the abstract (Case Presentations and Conclusions)
- Background
- Discussion (page 7)
- Discussion (page 10) with comments about the opportunity to actively re-lower serum sodium (according to Verbalis et al., Am J Med, 2013)
- Conclusions

The authors are fully aware of the Verbalis et al. recommendations and had already mentioned the new article recently published in Am J Med (Verbalis JG, Goldsmith SR, Greenberg A, Korzelius C, Schrier RW, Sterns RH, Thompson CJ: Diagnosis, evaluation, and treatment of hyponatremia: expert panel recommendations. Am J Med 2013, 126:S1-42). The prudential limits for sodium correction in high-risk patients were already indicated in the first version of the manuscript (page 9). However, there was a typing error (8 mmol/l in 12 hours instead of the correct 8 mmol/l in 24 hours).

English typos have been corrected.

Honestly, we feel that the revised manuscript may be of help to increase the awareness on the risks associated with an inappropriate correction of hyponatremia among physicians, as acknowledged also by the reviewer.
REPLIES TO REVIEWER 2

We thank the reviewer for appreciating our manuscript and for the helpful comments.
We modified the text (in red), according to the requests of the reviewer, as detailed below, and we hope that the manuscript is now definitively accepted for publication:

1. Typing errors were corrected and some sentences were rephrased.
2. A sentence was added, in order to indicate what happened after the first 24 hours (page 4)
3. The sentence on page 4 has been modified, according to the appropriate suggestion of the reviewer.
4. DDAVP administration was not considered by the physicians who were in charge of the patient at that time, although we indicated in the discussion that it might have been another possible option. Very likely, a critical role was played by the active simultaneous correction of hypokaliemia, which may cause by itself an overly rapid correction of hyponatremia. All these aspects are discussed in the text (i.e. on page 7 and 9).
5. According to medical records, the patients never improved during correction of hyponatremia. It is true that typically ODS lags behind the correction of sodium by about 24-48 hours. However, in some cases the manifestations associated with an overly rapid correction are already present after a few hours. Admittedly, in such instances it would be difficult to observe a temporary improvement. A sentence has been also added to report the conditions of the patient after delivery (page 5).
6. The limits of 8 mmol/l (maximum increase of serum sodium in the first 24 hours; in the original manuscript was erroneously indicated 12 hours) was indicated in the manuscript, together with appropriate references, including the very recent recommendations by Joseph Verbalis et al. (Verbalis JG, Goldsmith SR, Greenberg A, Korzelius C, Schrier RW, Sterns RH, Thompson CJ: Diagnosis, evaluation, and treatment of hyponatremia: expert panel recommendations. *Am J Med* 2013, 126:S1-42) (page 9).
7. SI units were used in the table, as requested.

Other points
1 and 2. As already mentioned, the pregnancy outcome and the conditions of the patient following delivery were added in the text (page 5)
3. There was not a history of alcoholism (now indicated on page 5)
4. The difference between acute and chronic hyponatremia, in terms of the risk associated with an overly rapid correction, is now highlighted on page 6.
5. English typos have been corrected and some sentences rephrased