Reviewer’s report

Title: Osmotic demyelination syndrome associated with isotonic saline solution infusion for the correction of severe hyponatraemia in hyperemesis gravidarum

Version: 1 Date: 12 February 2014

Reviewer: Amar Agha

Reviewer’s report:

This is an interesting MS on the occurrence of extra-pontine myelinolysis (ODS) in a patient who presented with severe symptomatic hyponatraemia and hypokalaemia in whom correction of plasma sodium occurred rapidly.

Major compulsory revisions

1. The text needs to be revised to correct some typing errors and phrasiology

2. It is not clear what happened to the patient plasma sodium after the initial rise from 107 to 124 mmol/l in the first 24 hours. Did it continue to rise or was the rise arrested at that point?

3. Page 4: “the clinical and radiological picture was considered to be consistent with extra-pontine ODS associated with hyperemesis gravidarum and thyrotoxicosis likely induced by hCG” This should be rephrased as the ODS was associated with a rapid correction of hyponatraemia which was caused by hyperemesis gravidarum.

4. It seems unusual that plasma sodium continued to rise after stopping the normal saline and changing to D5%. Was there a delay between getting the plasma sodium result (117 mmol/l) and making the switch? Was the administration of DDAVP considered?

5. Did the patient improve then disimprove neurologically? Typically ODS lags behind the correction of sodium by 24-48 hours

6. Page 9: in high risk patients, the correction should be 8 mmol/l or less in the first 24 hours not 12 hours

7. Please use SI units in the table

Minor essential revisions

1. What was the pregnancy outcome?

2. Did the patient make a complete recovery later on?
3. Was there a history of alcoholism?

4. The authors should also discuss the difference between acute and chronic severe hyponatraemia and the implications for the pace of correction.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.