Reviewer's report

Title: Sequential occurrence of eclampsia-associated posterior reversible encephalopathy syndrome and reversible splenial lesion syndrome (a case report): proposal of a novel pathogenesis for reversible splenial lesion syndrome

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Reviewer: Alexander McKinney

Reviewer's report:

Summary: Interesting article. There are several names for this syndrome, but as the authors state, this generally seems to be potentially reversible, and the etiologies may overlap with PRES and ATL (Acute Toxic Leukoencephalopathy); please see suggested references below. While the authors may have correctly suggested that it is related to mannitol, which may be true. However, it also likely involves a component of endothelial injury and perhaps toxic demyelination (see Ref 1-2 below), which has been suggested as both a cause of PRES and ATL, based on histopathology. Indeed, early reports of PRES and ATL have been described, and have overlapping etiologies (Ref 3-4 below). Hence, if RSL/MERS is considered a variant of ATL, then these overlaps in etiologies would make sense, and endothelial injury would be a common pathway. As Mannitol can reduce brain edema it may have ameliorated the injury, although in higher amounts it has been described to induce endothelial injury as well.

Suggestions:

1) address discussion above in manuscript regarding PRES, ATL, and that MERS may be a subtype of ATL and that endothelial injury may be a reason for the concomitant PRES-MERS here.

2) please add suggested Refs for that discussion, which may add to the understanding of why this phenomenon occurs.

3) Discussion: the idea that severe HTN exceeds autoregulatory limits is not new, and has been around for 20 years. This has been disproved in a number of PRES cases and studies that have shown that HTN is not present in up to nearly 1/2 of PRES patients, although certainly can occur in a subpopulation. Hence, the reason that endothelial injury is now considered a more common pathway of injury for most or all PRES patients (Ref 1)

4) Please remove "this is the first case..". It could be the first called MERS/PRES, although if it is considered a subtype of ATL it is not. Perhaps a better way to state this is "There
are scant, if any, cases described of concomitant PRES-MERS, although preliminary cases of toxic leukoencephalopathy (ATL) have been described with PRES" (Ref. 3). Or something like that.

Suggested Refs:


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

Yes

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.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript
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