Reviewer’s report

Title: The etiology and outcome of non-traumatic coma in an acute medical setting: a systematic review.

Version: 1 Date: 19 November 2014

Reviewer: Nicolas WEISS

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Horsting et al. report a systematic review on etiology and outcome of non-traumatic coma.

The authors performed a literature search and an analysis of published articles in Pubmed, Embase and Cochrane library.

Some remarks could be made and some minor essential revisions could be suggested:

- in selection of studies, meningitis is included in "structural etiologies". This can be questionable
- non-structural coma etiologies could include uremic encephalopathy
- in results, in Non-traumatic coma etiology the authors stated that "Hamel et al only reported a metabolic cause of coma in 1% of the patients and poisoning in less than 1% of the patients". It should be probably precized that the SUPPORT excluded intoxication and metabolic causes of coma. Thus, the very low percentage of these 2 etiologies is largely explained by inclusion criteria.
- "persisting vegetative state" should be corrected to persistent or permanent (see Task Force for vegetative state, New Engl J Med).
- in Discussion, the part discussing the Limitations should be placed at the end of the Discussion.
- the authors should precise in the discussion that ischemic stroke is associated to coma only in the case of brainstem or malignant MCA stroke contrary to hemorrhagic stroke.
- in References, maybe the references could be shortened
- in Table 1, for article 21, the "suspection of neurological etiology upon admission" were not a exclusion criteria. The authors should precise that the study was performed in a hospital that not directly have a neurological or neurosurgical ward on site. It could have changed the case-mix
- in Table 2, for reference 21, it seems that it was an inversion between the second and the third line (CNS infections and malignancy)

Level of interest: An article of importance in its field
Quality of written English: Acceptable

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

Declaration of competing interests:
I declare that I have no competing interests