Reviewer's report

Title: Preliminary Evaluation of Near Infrared Spectroscopy as a Method to Detect Plasma Leakage in Children with Dengue Hemorrhagic Fever

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Reviewer: Annelies Wilder-Smith

Reviewer's report:

It is important to identify more clinically relevant early markers or indicators for more severe disease. The authors in this paper investigate near infrared spectroscopy and its predictive value for pleura effusion/leakage. Real-time continuous data as obtained by NIRS may be helpful in clinical management of dengue patients.

Specific comments:

The introduction should end with the research objectives of this study, not with the end result (this pilot study DEMONSTRATED...). Delete that sentence.

Methods:

It would be nice to add a picture of the instrument so that the reader can have an idea about the size and appearance of NIRS. It would also be nice to find out whether the patients or nursing staff found this device as a nuisance or whether it was well tolerated and acceptable on a daily basis. Information whether the patients have to lie in bed throughout the monitoring would be important for the reader to know. Most importantly, what is the cost of NIRS? IF we are looking for alternative point of care diagnostic tools to chest x ray or ultrasound, we need to know whether NIRS would be more cost effective and also practically feasible on a routine basis in resource limited countries.

Results: please add the mean day of admission after onset of fever.

Discussion: discuss the true value of a possibly expensive device with continuous monitoring in all dengue patients given that only a small proportion proceeds to more severe disease? How can nurses or doctors obtain the results and values in real-time, or are complex methods needed to calculate real-time results for cut-off values? Can a cut-off value be applied in routine settings? What are your suggestions for next studies to enhance our knowledge of the applicability of this method?

Conclusion: add the cut-off value.

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

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

no conflict of interest