**Reviewer’s report**

**Title:** Should colloid boluses be prioritized over crystalloid boluses for the management of dengue shock syndrome in the presence of ascites and pleural effusions?

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**Reviewer:** Siripen Kalayanarooj

**Reviewer’s report:**

- Abstract
  - Case presentation
    # Add the following sentences at the end of 3rd line and delete the later sentences. Ascites and pleural effusion were detected in all 3 patients at the time of shock no matter IV fluid were given or not. All 3 adults patients had documented liver involvement at the time of shock by elevation of AST (4,800; 5,000 and 1,960 U). One patient who had profound shock died 6 hours after admission with evidence of acute pulmonary edema while 2 patients who survived developed acute pulmonary edema in convalescence phase. All of them needed ventilator support with potent diuretics.
    
  - Conclusion: change to the following sentences.
    # DSS patients whom ascites and pleural effusion were detected at the time of shock mostly had received quite a significant amount of IV or oral fluid before. Emphasize on fluid contains electrolyte or oral electrolyte solution is important for plain water can lead to massive plasma leakage because of its hypotonicity. In cases of profound shock, corrections of acidosis, hypoglycemia and hypocalcemia are very important for the patients will not response to only conventional IV fluid resuscitation. Concealed internal bleeding especially those cases with rapid dropping in hematocrit (HCT) without clinical improvement in spite of a large amount of IV fluid resuscitation. Colloidal solution in bolus dose is indicated in those cases while waiting for blood transfusion.

- Background
  - Last paragraph: The recent outbreak of DF. Change to the recent outbreak of dengue
  - Line 6 – delete the sentences begin with Although… and replace with the following sentences. IV fluid resuscitation of shock was done according to the WHO guidelines without follow up hematocrit and investigations/ corrections of the commonly found laboratory abnormalities when the patients did not response to the conventional IV therapy.

- Case 1
  - Question about the total volume of fluid resuscitation. Three boluses (each lasting for 15-20 min) of 10-20 ml/kg/hr in a 48-kg-woman = 1,500-3,000 ml in 1
hour, not 1,000 ml in 2 hrs as in the text?
o Question about colloid (4 unit of FFP = 800 ml?) in how many hours? Why? What is the BP and pulse and HCT? If the patient responded to the treatment, then IV fluid can be reduced further.
o This patient developed respiratory distress at 8 hrs after shock. Total IV fluid she had received = 4,300 ml? (First hour = 1,500; 2nd hour = 1,500 ml, FFP 800 ml between 3-4th hour and 250 ml in 5-6th hour). She deserved acute pulmonary edema if she really received this amount. WHO guideline to repeat frequent vital signs monitoring, HCT, blood gas, electrolyte, blood sugae if not respond to conventional treatment. If stable viatal signs, further reduce IV rate.

• Case 2
o This patient presented with profound shock and hypotension so concealed internal bleeding should be suspected although HCT on admission 58%. The text is confused? Two intermittent boluses over 20 mins: 20 ml/kg/hr basis and BW 60 kgs, the total volume should be 2,400 ml in 40 mins? And colloid (6 units of FFP = 750 ml) in one hour. Total IV fluid resuscitation 3,150 ml in 2 hours? She also deserved acute pulmonary edema with CVP = 22-26 cm H2O. Blood gas 2 hours after admission revealed metabolic acidosis – mean that no correction. No HCT follow up. Not mentioned about giving VitaminK1 for liver failure, Ca gluconate for commonly found hypocalcemia.

• Case 3
o The first 24 hours after shock, she had more than adequate urine output (0.7-0.8 ml/kg/hr). She developed shock again after 24 hours and about 2,050 ml of IV fluid was given. This second shock, the patient was likely to have shock because of respiratory failure due to too much fluid. Colloid solution should be given here together with furosemide immediately.

• Discussion
o The authors followed WHO guidelines only with IV fluid resuscitation but not follow other important recommendation: No follow up HCT, No close monitoring vital signs, no lab investigations and corrections especially in cases with profound shock or cases with not responded to conventional IV fluid therapy. Integrated management for DSS patients is important to reduce case fatality rate and complications. Not only IV fluid resuscitation!
o If in febrile or critical phase, patients drink plain water, not electrolyte solution, this will cause more plasma leakage, more ascites, more pleural effusion and probably hyponatremia that can lead to convulsion.

• Conclusion – as in abstract

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
Declaration of competing interests:

'I declare that I have no competing interests'