Reviewer's report

Title: Thromboelastometry guided blood transfusion: an alternative and efficient approach to manage acute fatty liver of pregnancy. A case report.

Version: 2 
Date: 14 June 2015

Reviewer: Cristina Solomon

Which of the following best describes what type of case report this is?: Presentations, diagnoses and/or management of new and emerging diseases

Do you believe the case report is authentic?: Yes, I believe the case is authentic. I have performed a large number of ROTEM analyses so far and the values on the case appear genuine.

Do you have any ethical concerns?: No

Is the Abstract representative of the case presented?: yes

Does the Introduction explain the relevance of the case to the medical literature?: yes

Does the article report relevant patient information?: Yes

Does the article report relevant physical examination findings?: Yes

Does the article report important dates and times in this case?: Yes

Does the article report the diagnostic assessments?: Yes

Does the article report the types of intervention?: Yes

Does the article report a summary of the clinical course of all follow-up visits?: Yes

If any information is missing from the reporting, please detail it here.: Dosing of the drugs used
Is the interpretation (discussion and conclusion) well balanced and supported by the case presented?:

yes

Does the case represent a useful contribution to the medical literature?:

Yes, a challenging case and a new approach of hemostatic therapy

Was written informed consent to publish this case obtained?: Yes

Is the anonymity of the patient protected?:

yes

Additional comments to authors?:

The authors report on the management of hemostatic therapy in a case of acute fatty liver of pregnancy requiring caesarean section and presenting with a profoundly disturbed coagulation pattern. The authors are to be congratulated for the prompt diagnosis of this rather rare pregnancy-related liver disorder, and for the targeted hemostatic intervention that may have potentially contributed to the satisfactory patient outcome. The question of the appropriate choice of haemostatic therapy has not been resolved yet in patients with AFLP. The rarity of the disease makes the prospective assessment and comparison of different hemostatic therapy approaches a challenge. In the absence of such data, through case descriptions are very useful guidance tools.

This reviewer recommends the case report for publication. The quality of the writing is satisfactory and the case is clearly described. A number of minor corrections are proposed below.

Minor comments
1. Title: Consider amending the title to: “Thromboelastometry-guided hemostatic therapy: an efficacious approach to manage bleeding risk in acute fatty liver of pregnancy. A case report.”
2. Abstract, Case Presentation: the authors may want to rethink the term “brown”. It is not commonly used. Perhaps Afro-Brazilian?
3. Abstract, Case Presentation: consider adding actual values to the text (e.g. INR values, fibrinogen concentration values)
4. Abstract, Case Presentation: it would be helpful to indicate in the text that the EXTEM and FIBTEM tests were used. e.g. "Based on the results of the thromboelastometric tests EXTEM and FIBTEM…"
5. Abstract, Conclusion: as the study did not investigate the impact on thromboelastometry in a large sample size, the Conclusion may be overreaching. Please amend slightly: e.g. “with the potential advantage of helping avoid
transfusion in these patients”.

6. Introduction, page 4, line 1: please correct “it represents” to “they represent”.

7. Introduction, page 4, line 3: please replace “Therefore, thromboelastometry guided blood transfusion could be considered“ with “Therefore, thromboelastometry guided hemostatic therapy could be considered.“

8. Introduction, page 4, line 6: please replace the word “blood with “hemostatic therapy”, because this is the point of the case.

9. Introduction, page 5, paragraph 1: please add the specific triggers (e.g. EXTEM CT, FIBTEM MCF) and the values used as triggers to the text, so that the readers do not have to go back and forth to the table. Please add the information on the fibrinogen and PCC dose to the text.

10. Discussion, page 6, paragraph 2: The correct term is “thrombelastography” – not “thromboelastography” (4 times to be corrected in this paragraph)

11. Discussion, page 6, paragraph 2: The correct term is “thrombelastography” – not “thromboelastography” (4 times to be corrected in this paragraph)

12. Discussion, page 6, paragraph 3: with regards to thromboelastometry, a few years ago the term “rotation” has been deleted from the nomenclature of the method. Please delete the word “rotation” (2 times to be corrected in this paragraph)

13. Discussion, page 7, paragraph 2: Please add that prolongation of CT may also be observed when not enough substrate is available for the fibrin and platelet clot. This finding is supported by the fact that CT shortening has been observed in experimental and clinical work following fibrinogen correction (Bolliger et al 2009 BJA, “finding the optimal concentration...”, Grottke 2015 Anesthesiology “Prothrombin complex concentrates…” – with considerations on the limitations of CT when fibrin is decreased; Solomon et al 2013, BJA, “Haemostatic effects...”. Please add a paragraph on the limitations of CT in guiding PCC (i.e. fibrin clot quality should be corrected first, and a new CT value should be obtained to understand whether there is a thrombin generation deficit which requires correction. In this case, however, the coagulation defect was very profound, and the CT prolongation was so severe, that it is likely that it was cause by both fibrin deficit and thrombin generation deficit. Nevertheless, a step-wise approach for coagulation testing and hemostatic therapy may be preferable.

14. Discussion, page 7, paragraph 2: please delete “The CFT is more strongly influenced by clot polymerisation disorders than by the MCF. A prolonged CFT, with a normal MCF, thus indicates a polymerization disorder, whereas a reduced MCF with a normal CFT indicates a deficiency of clottable substrate (fibrinogen and / or platelets).” These statements are not correct. CFT is comparably influenced by fibrin and platelets.

15. Discussion, page 7, paragraph 3 and page 8, paragraph: please replace “dysfibrinogenemia” with “hypofibrinogenemia”

16. Discussion, page 7, paragraph 3: please use “administering” instead of replacing
17. Discussion, page 7, paragraph 3: the last sentence appears incomplete. Please consider correcting to “More importantly, this was possible with…”

18. Table 1 and figure 1: the figure presents a set of ROTEM images obtained post therapy, but it would be useful to have the actual values also in the table i.e. between 0 hrs and 3 hrs in the table)

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Declaration of competing interests:

Dear Editor, my current publications describe following statement re. COI: "Cristina Solomon is an employee of CSL Behring and previously received speaker honoraria and research support from Tem International and CSL Behring, and travel support from Haemoscope Ltd (former manufacturer of TEG®)."