

Thromboelastographic Analysis of Hemostatic Abnormalities in Dengue Patients Admitted in a Multidisciplinary Intensive Care Unit: A Cross-Sectional Study

Sir,

We read with immense interest the study entitled “Thromboelastographic analysis of hemostatic abnormalities in dengue patients admitted in a multidisciplinary intensive care unit: a cross-sectional study” by Sureshkumar *et al.* published in April 2018 issue of your journal.^[1] The authors have recorded and provided vital information on a relatively unexplored area and rightly pointed out that thromboelastography (TEG) may be helpful in understanding the pathophysiology of hemostatic abnormalities in patients with dengue.

We would like to comment on the following points which may need further elaboration:

1. TEG was done only at admission in this study. Serial analysis of TEG parameters would have better elucidated the dynamics of hemostatic abnormalities in these patients
2. Factors such as blood sample collection technique, transportation time of sample from the Intensive Care Unit (ICU) to laboratory and the TEG assay used (e.g., kaolin or heparinase TEG) are also crucial for an accurate interpretation of the coagulation pattern by TEG.^[2,3] This information needs to be clearly mentioned in the methodology
3. TEG *per se* is not a good method for assessment of platelet function, for which better modalities are available.^[4,5] It is difficult to correlate platelet count with platelet function using TEG
4. Some patients with dengue might have been in sepsis as well, which can further influence the coagulation profile
5. The references cutoff values for TEG have been provided by manufacturer (from studies on western population), which may not be applicable to our setup. Studies on healthy Indian cohorts can generate the normal reference range values for TEG parameters in our population.

A similar study was performed and published by us recently on the evaluation of coagulopathy in nonbleeding patients with sepsis at ICU admission. We found that TEG (unlike conventional coagulation assays) could delineate three types of coagulation patterns in patients with sepsis: normocoagulant, hyper- and hypocoagulant patterns. Besides, patients with septic shock had a trend toward hypocoagulation while those without shock had trend toward hypercoagulation.^[6]

It has been aptly pointed out by the authors that the correlation of TEG with usage of blood component therapy or guiding the usage of drug therapies would definitely be more relevant to the clinicians. To conclude, TEG is emerging as a pivotal tool for assessment of hemostatic dysfunction in different areas (like sepsis) besides its classical role in trauma and cardiac surgeries. Larger studies are further needed for evaluating the role of TEG in guiding transfusion practices, monitoring, or instituting drug therapy and for prognostication of outcome.^[7]

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Syed Nabeel Muzaffar, Suhail Sarwar Siddiqui, Afzal Azim¹

Department of Critical Care Medicine, Trauma Centre, KGMU UP,

¹Department of Critical Care Medicine, SGPGIMS, Lucknow, Uttar Pradesh, India

Address for correspondence: Dr. Afzal Azim,

Department of Critical Care Medicine, F Block, First Floor, SGPGIMS, Lucknow - 226 014, Uttar Pradesh, India.

E-mail: draazim2002@gmail.com

REFERENCES

1. Sureshkumar VK, Vijayan D, Kunhu S, Mohamed Z, Thomas S, Raman M, *et al.* Thromboelastographic analysis of hemostatic abnormalities in dengue patients admitted in a multidisciplinary Intensive Care Unit: A Cross-sectional study. *Indian J Crit Care Med* 2018;22:238-42.
2. Kreitzer NP, Bonomo J, Kanter D, Zammit C. Review of thromboelastography in neurocritical care. *Neurocrit Care* 2015;23:427-33.
3. Bolliger D, Seeberger MD, Tanaka KA. Principles and practice of thromboelastography in clinical coagulation management and transfusion practice. *Transfus Med Rev* 2012;26:1-3.
4. Bowbrick VA, Mikhailidis DP, Stansby G. Value of thromboelastography in the assessment of platelet function. *Clin Appl Thromb Hemost* 2003;9:137-42.
5. Paniccia R, Priora R, Liotta AA, Abbate R. Platelet function tests: A comparative review. *Vasc Health Risk Manag* 2015;11:133-48.
6. Muzaffar SN, Baronia AK, Azim A, Verma A, Gurjar M, Poddar B, *et al.* Thromboelastography for evaluation of coagulopathy in nonbleeding patients with sepsis at Intensive Care Unit admission. *Indian J Crit Care Med* 2017;21:268-73.
7. Afzal A, Syed NM. Thromboelastography and thromboelastometry in patients with sepsis – A mini-review. *J Anesth Intensive Care Med* 2017;3:555603.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online

Quick Response Code:



Website:

www.ijccm.org

DOI:

10.4103/ijccm.IJCCM_196_18

How to cite this article: Muzaffar SN, Siddiqui SS, Azim A. Thromboelastographic analysis of hemostatic abnormalities in dengue patients admitted in a multidisciplinary intensive care unit: A cross-sectional study. *Indian J Crit Care Med* 2018;22:563-4.

© 2018 Indian Journal of Critical Care Medicine | Published by Wolters Kluwer - Medknow