Editorial for the series on hemodynamic monitoring in critically ill patients

This series of *Annals of Translational Medicine* presents a collection of review articles on hemodynamic monitoring in the critically ill patient. The limits and scopes of hemodynamic monitoring has broadened over the last decades with the incorporation of new less invasive techniques such as bedside point-of-care echocardiography. On the other hand, resuscitation concepts have changed and moved from a cardiac output centered approach to perfusion-driven strategies.

The relation between macrocirculation and end-organ or microcirculatory perfusion has been deeply explored and lead to define hemodynamic coherence as a state where an improvement of cardiac output or perfusion pressure is associated with improvement in regional and microcirculatory flow. This status is lost in advanced septic shock or other conditions where further efforts to maximize systemic hemodynamics will increase the risk of over-resuscitation without improving perfusion at the tissue level. This further reinforces the fact that hemodynamic monitoring cannot be addressed as an isolated topic without including the window of perfusion.

Therefore, this series includes in-depth reviews of key physiological topics such as fluid responsiveness, ventricular-arterial coupling, perfusion monitoring, and microcirculatory flow. In addition, advanced techniques such as echocardiography in different settings, monitoring of complex procedures such as VA-ECMO, and the impact of fluids and vasoactive drugs on hemodynamics and perfusion.

We are extremely thankful for the great contributions of all authors in the series. We hope you enjoy these interesting reviews as well as the editorials and related-originals included in the series. We believe the series will provide new insights and inspirations for readers in the future research.

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Footnote

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Glenn Hernández

Guo-Wei Tu

Glenn Hernández, MD, PhD
Departamento de Medicina Intensiva, Facultad de Medicina, Pontificia Universidad Católica de Chile, Santiago, Chile.
(Email: glennguru@gmail.com)
Guo-Wei Tu, MD, PhD
Department of Critical Care Medicine, Zhongshan Hospital, Fudan University, Shanghai 200032, China.
(Email: tu.guowei@zs-hospital.sh.cn)
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