



Letter to the Editor

Is variability a natural phenomenon in patients, providers and institutions?



ARTICLE INFO

Keywords:

Mean blood pressure

1. Is variability a natural phenomenon in patients, providers and institutions?

In a retrospective study Rinehart et al. [1] studied blood pressure variability in surgical and intensive care unit patients. They reported higher level of mean blood pressure (MBP) than desirable in more than 50% of patients.

They have picked up an appropriate target measure to study as in patients with sepsis, variability in BP has been shown to predict prognosis in terms of survival and non-survival rates Pandey et al. [2]. We would like to point out following interesting issues regarding this study.

The study presented the results of the two samples which are quite variables in many ways (an American hospital trauma centre with only ICU patients, while the other is a European hospital, with patients in the operation theatre). Sampling rate of BP was also different (one recording BP every 1 minute, while the other every 20 second for operation theatre patients). Another possible variation may also be present, which authors did not provide (did all patients have arterial lines or did some have conventional non-invasive blood pressure monitoring?). There may be more difference, i.e. use of beta-blocker in surgical patients preoperatively is prevalent while non-existent or contraindicated in hypotensive ICU patients.

They conducted the study between January 1, 2015 and January 27th, 2017 coincidentally with the implementation date of EMR. Although why 27 January 2017? Did they stop implementation of EMR after this date or just arbitrarily?

They expunge the artefactual data and outliers correctly; if the latter had been included, the authors might have found an even bigger variation. The question is what was the amount of data removed (%) as it could significantly affect the results?

This study provides interesting observations that healthcare workers may be unconsciously keeping BP higher than desirable. It

would be more interesting if they had included pulse rate data (at times the presser dose may have been increased for bradycardia and consequentially BP stays higher), and breakdown of pressers (norepinephrine versus phenylephrine) as they could significantly play a role in highly variable BP. Additionally, information about the staff (anaesthetist versus nurse) titrating the doses of pressers also could shed some light as an anaesthetist may have higher comfort level to tolerate low BP, while a nurse may have lower comfort level.

Ethical statements

Human and animal rights: not applicable.

Informed consent and patient details: not applicable.

Funding

This work did not receive any grant from funding agencies in the public, commercial, or not-for-profit sectors.

Author contributions

All authors attest that they meet the current International Committee of Medical Journal Editors (ICMJE) criteria for Authorship.

Disclosure of interest

The authors declare that they have no competing interest.

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Available online 21 December 2018