

Optimal management of blood pressure variability for clinical practice

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Blood pressure variability (BPV) has been an emerging target for optimal management of hypertension even though theoretical concept had been developed much earlier. Such changes can be attributable to recent data from the clinical trials and more and more observational study. For real world application for optimal management of hypertension, the topic should be restricted to visit to visit BPV, diurnal variations related to nocturnal dipping and morning surge.

Since the introduction of visit to visit blood pressure variability (VVBPV) for cardiovascular outcome, it has long been awaited for prospective intervention trial to reduce VVBPV for evidence based medicine. But because of several hurdles, most importantly, pending measure to reduce VVBPV, such trial may not be available in the near future. It means that current understanding on the VVBPV is not casual but a simple association with cardiovascular outcome.

Statistical confounder such as level of blood pressure, candidate population for monitoring VVBPV, and other biological confounders such as arterial stiffness, low grade systemic inflammation, and sympathetic over-reactivity should be understood. For clinical applications, the importance of the well-known lifestyle modification such as physical activity should be more explored. Therapeutic aspects such as the class of drug, adherence, general health status in fragile patients and routine clinic protocol for office blood pressure measurement should also be studied.

As a part of diurnal BPV, blunted nocturnal dipping or non-dipper and morning surge or morning hypertension are very closely related to each other. For clinical implications it is notable to observe the difference between Asian versus western populations and more implications for Asian population. But clinical translation of this two phenomena could be diversified into 24 hour blood pressure control, bedtime dosing, pharmacologic profile, and lifestyle modification such as salt restriction and physical activity.

Waiting for more sound evidence, which can be remained in a clinician's mind struggling not to be indifferent for potential benefit?