Organ Dysfunction After Surgery in Patients Treated With Individualized or Standard Blood Pressure Management-Reply

Emmanuel Futier, Bruno Pereira, Samir Jaber

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Mitchell and colleagues and Daoud point out the possible effects of a co-intervention of different vasopressor agents in addition to different blood pressure thresholds on study outcomes, and they suggest that use of norepinephrine instead of ephedrine in the standard treatment group would have eliminated this unnecessary confounding. Norepinephrine is rarely used to treat hypotension in general surgical patients, and data on its efficacy and safety have not been extensively studied in this context. Nevertheless, we agree that an independent effect of the vasopressor agent on outcome cannot be excluded, in particular because norepinephrine may exert venoconstrictive effects on venous capacitance vessels leading to an increase in venous return and cardiac preload. However, in the trial, no between-group differences were noted in the cardiac index or the cumulative volume of fluids. In the per-protocol analysis (including patients who required norepinephrine because of persistent hypotension), the primary outcome occurred in 28 patients (74%) in the standard treatment group vs 53 patients (38%) in the individualized treatment group (adjusted relative risk, 0.53; 95% CI, 0.40-0.72; P < .001).

Drs L. J. Laffin and M. R. Laffin raise concerns about the standardization and accuracy of blood pressure measurements to define resting values. We agree on the difficulty of defining resting blood pressures, especially when 60% of patients taking antihypertensive drugs had treatment discontinuation prior to surgery and 15% had emergency procedures. However, extensive measures were taken to minimize the risk of variability, and blood pressures documented in the patient medical record were used as the reference value in most cases.

Emmanuel Futier, MD, PhD
Bruno Pereira, PhD
Samir Jaber, MD, PhD

Author Affiliations: Hôpital Estaing, Centre Hospitalier Universitaire Clermont-Ferrand, Clermont-Ferrand, France (Futier); Centre Hospitalier Universitaire Clermont-Ferrand, Direction de la Recherche Clinique, Clermont-Ferrand, France (Pereira); Hôpital Saint-Eloi, Centre Hospitalier Universitaire Montpellier, Montpellier, France (Jaber).

Corresponding Author: Emmanuel Futier, MD, PhD, Département de médecine périopératoire, Anesthésie Réanimation, Hôpital Estaing, 1 place Lucie Aubrac, 63003 Clermont-Ferrand, France (efutier@chu-clermontferrand.fr).

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