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

Karamchandani and colleagues also raise concerns about a possible effect of a between-group difference in intraoperative crystalloid administration. The mean difference in crystalloid administration during surgery between the 2 groups was 355 mL (95% CI, 138-572). Although patients who developed the primary outcome received more crystalloids (mean difference, 434 mL; 95% CI, 218-650), intraoperative crystalloid administration was not associated with the primary outcome (adjusted relative risk, 1.29; 95% CI, 0.95-1.77), nor was the cumulative volume of fluids (eTable 2 in the Supplement).

Dr Mitchell and colleagues are concerned about blood pressure recordings at 10-minute intervals. Blood pressure was monitored continuously during surgery but hemodynamic data were collected at 10-minute intervals. As a result, the possibility of substantial variations in blood pressure between measurements points, and the possibility of longer durations of hypotensive events in the standard treatment group, cannot be excluded.

Dr Thiele questions the relevance of the overall small but statistically significant between-group difference in mean SBP and its connection to outcomes. Whether a higher threshold of statistical significance should be used in clinical research merits further debate. We agree, however, that in the INPRESS study, the risk of incorrectly rejecting the null hypothesis was as high as 2%. Thiele also suggests we report blood pressure indexed to baseline. We disagree given the stress-induced variability between baseline and usual blood pressure values both within and between patients commonly observed in clinical practice.

Dr Daoud raises concern about the relative weights of each component of the composite primary outcome. Although the positive effect on the composite end point was mainly driven by statistically significant differences in renal dysfunction and altered consciousness with the individualized strategy, additional analysis with each individual component was also performed, as recommended, and adjustment was made for multiple testing.

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