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Intravenous Fluid Preload in the Prevention of Spinal Block-induced Hypotension in Parturients: I

To the Editor:—Hypotension after the initiation of spinal anesthesia remains one of the most common problems associated with this technique. Contrary to previous teaching, Rout and coworkers[1] have suggested that the administration of a fixed volume of intravenous fluid before spinal anesthesia for urgent cases should be abandoned. We wholeheartedly agree with these authors that a spinal anesthetic should not be denied to a patient because there is insufficient time to preload with intravenous fluid. After examination of their data, however, a conclusion different from theirs can be drawn.

That preloading with intravenous fluid does not totally eliminate hypotension is troubling, but the suggestion that preloading therefore is unnecessary if time does not permit does not necessarily follow. Rout *et al.*[1] found a statistically significant decrease in hypotension in the patients who were preloaded *versus* those who were nonpreloaded (55% of patients who were preloaded were hypotensive *vs.* 71% of those who were nonpreloaded). It may be true that one might not totally eliminate the occurrence of maternal hypotension by acute volume expansion, but one may be able to decrease the incidence of hypotension as well as the administration of the total amount of vasopressor agents by increasing the amount of volume loading. These authors observed a lower mean base excess in neonates of hypotensive mothers compared to neonates of nonhypotensive mothers. Others also have observed lower UA/UV *p*H as well as acid–base abnormalities in neonates of hypotensive mothers.[2,3] The design of Rout *et al.*'s study called for a preload of 20 ml/kg crystalloid. Because the mean weight of patients was 72 kg, patients received approximately 1,400 ml fluid. It is possible that the incidence of hypotension would have decreased if the authors had increased the prehydration to 25 or 30 ml/kg.

Another advantage of preventing maternal hypotension is a decreased incidence of maternal nausea and vomiting.[4,5] Hypotension-induced nausea and vomiting may cause distress to the mother, father, obstetrician, and anesthesiologist.

Perhaps what should be emphasized is how to be prepared so that intravenous fluid can be administered without delay in all emergent scenarios. In addition to a large-bore intravenous catheter, a rapid-infusion device, whether automatic or manual, will allow acute infusion of intravenous crystalloid so that if a patient who has not received intravenous fluid arrives in the operating room for an emergency cesarean section, 20–30 ml/kg crystalloid can be administered as quickly as possible when spinal anesthesia is selected.

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