

**The Concept of Titration can be Transposed to Fluid Management but does it Change the Volumes? Randomised Trial on Pleth Variability Index during Fast-Track Colonic Surgery.**

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**Background**

The concept of drug titration emerged recently for intraoperative fluid administration during Fast-Track colonic surgery to avoid hypovolemia as well as excessive crystalloid administration. The Pleth Variability Index (PVI) is an oximeter-derived parameter. It allows a continuous monitoring of the respiratory variation of the perfusion index.

**Objective**

To investigate if applying the concept of fluid titration with PVI-guided colloid administration conjointly with restricted crystalloids administration changes the amount of fluid administered. DESIGN, SETTINGS AND PATIENTS: Twenty one ASA 2 patients scheduled for Fast-Track colonic surgery were randomized in two groups: the PVI-guided the fluid management group and the the control group.

**Intervention and Main Outcome Measures**

After the induction of general anesthesia, the PVI group received a 10 mL.kg<sup>-1</sup>.h<sup>-1</sup> infusion of crystalloid during the first hour, reduced to 2 mL.kg<sup>-1</sup>.h<sup>-1</sup> thereafter. Colloids 250 mL were administered if necessary to maintain a PVI value of 10 to 13%. In the control group, a 10 mL.kg<sup>-1</sup>.h<sup>-1</sup> infusion of crystalloid during the first hour was followed by a 5 mL.kg<sup>-1</sup>.h<sup>-1</sup> infusion. Boluses of 250 mL of colloids were administered if required to maintain the mean arterial pressure above 65 mmHg.

**Results**

Intraoperative crystalloids infused volume were significantly lower in the PVI group (925+/-262 mL vs 1129+/- 160 mL; P=0.04). In contrast, the infused amounts of colloids was higher in the PVI group (725+/-521 mL vs 250+/-224 mL; P=0.01). Interestingly, total fluid amount infused intra- ant postoperatively were similar between the groups (1650+/- 807 mL vs 1379+/-186 mL; P=0.21).

**Conclusion**

PVI-guided fluid management in Fast-Track colonic surgery is not necessarily associated with different total volume infused.