**Evaluation of pleth variability index as a predictor of fluid responsiveness during orthotopic liver transplantation.**

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Fluid management is challenging and still remains controversial in orthotopic liver transplantation (OLT). The pleth variability index (PVI) has been shown to be a reliable predictor of fluid responsiveness of perioperative and critically ill patients; however, it has not been evaluated in OLT. This study was designed to examine whether the PVI can reliably predict fluid responsiveness in OLT and to compare PVI with other hemodynamic indexes that are measured using the PiCCO2 monitoring system. Twenty-five patients were enrolled in this study. Each patient was monitored using the noninvasive Masimo and PiCCO2 monitoring system. PVI was obtained with a Masimo pulse oximeter. Cardiac index was obtained using a transpulmonary thermodilution technique (CITPTD). Stroke volume variation (SVV), pulse pressure variation, and systemic vascular resistance index were measured using the PiCCO2 system. Fluid loading (10 mL/kg colloid) was performed at two different phases during the operation, and fluid responsiveness was defined as an increase in CITPTD ≥ 15%. During the dissection phase and the anhepatic phase, respectively, 14 patients (56%) and 18 patients (75%) were classified as responders. There were no differences between the baseline values of the PVI of responders and nonresponders. Area under the curve for PVI was 0.56 (sensitivity 35%, specificity 90%, p = 0.58) at dissection phase, and was 0.55 (sensitivity 55%, specificity 66%, p = 0.58) at anhepatic phase. Of the parameters, a higher area under the curve value was found for SVV. We conclude that PVI was unable to predict fluid responsiveness with sufficient accuracy in patients undergoing OLT, but the SVV parameter was reliable.