

Efficacy of Dynamic Indices in Predicting Fluid Responsiveness in Patients with Obstructive Jaundice

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Previous studies have shown that the stroke volume variation (SVV), the pulse pressure variation (PPV) and the pleth variability index (PVI) could be successfully used for predicting fluid responsiveness (FR) in surgical patients. The aim of this study was to validate the ability of SVV, PPV and PVI to predict intraoperative FR in mechanically ventilated patients with obstructive jaundice (OJ).

Thirty-two patients with OJ (mean serum total bilirubin $190.5 \pm 95.3 \mu\text{mol L}^{-1}$) received intraoperative volume expansion (VE) with 250 ml colloids immediately after an exploratory laparotomy had been completed and after a 5 min period of hemodynamic stability. Hemodynamic variables were recorded before and after VE. FR was defined as an increase in stroke volume index $> 10\%$ after VE. The ability of SVV, PPV and PVI to predict FR was assessed by calculation of the area under the receiver operating characteristic curve.

Eleven (34%) patients were responders and 21 patients were nonresponders to VE. The PPV was the unique dynamic index that had the moderate ability to predict FR during surgical procedures, the area under the curve was 0.71 (95% CI, 0.523 to 0.856; $P = 0.039$) and the threshold (sensitivity and specificity) discriminated responders was 7.5% (63.6%/71.4%).

The present study concluded that SVV and PVI were not reliable predictors of FR, but PPV has some value predicting FR in patients with OJ intraoperatively.