

## **Pleth Variability Index-Based Goal-Directed Fluid Management in Patients Undergoing Elective Gynecologic Surgery**

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**Objectives:** Data concerning the usefulness of pleth variability index (PVI)-based goal-directed fluid management (GDFM) in gynecologic surgery is limited. This study purposed to compare the impact of PVI-based GDFM to conventional fluid management (CFM) on intraoperative hemodynamics and lactate levels in subjects undergoing gynecologic surgery.

**Methods:** This randomized and controlled trial was conducted on 70 patients undergoing elective gynecologic surgery. Subjects were randomly assigned to CFM or GDFM. Hemodynamic data and results of the arterial blood gas analysis, and total amount of the fluid infused were recorded throughout the surgery at 1-h intervals.

**Results:** The amount of the total fluids was significantly higher in the CFM group compared to that of the GDFM group ( $p < 0.001$ ). Mean arterial pressure recorded at the 2nd h of the surgery was significantly lower in the CFM group compared to that of the GDFM group ( $p = 0.047$ ). While there were no significant differences between the baseline and the 2nd h lactate levels in the GDFM group, the lactate level significantly increased from baseline to the 2nd h in the CFM group ( $p = 0.010$ ).

**Conclusion:** Implementation of PVI-based GDFM provides better intraoperative hemodynamic stability and lower lactate levels compared to the CFM in subjects undergoing gynecologic surgery.