

Relationship between Pleth Variability Index and the Occurrence of Hypotension during Epidural Anesthesia for Cesarean Section.

Zang H, Zhu L, Yan W.

J Coll Physicians Surg Pak. 2021 Jun;30(6):619-622.

Abstract

Objective: To determine the predictive effect of pleth variability index (PVI) before anesthesia on hypotension after epidural anesthesia in cesarean section parturient women.

Study design: Observational study.

Place and duration of study: Gansu Province People's Hospital, China, from March 2019 to May 2020.

Methodology: One hundred and seven singleton parturient women, who underwent elective cesarean section, were selected. They were divided into no hypotension group (Group A) and hypotension group (Group B). Hypotension was defined as systolic blood pressure lower than 90 mmHg or >30% decrease in the mean arterial pressure. Receiver operating characteristic (ROC) curve was used to evaluate the predictive value of PVI before anesthesia and heart rate (HR) for hypotension after epidural anesthesia.

Results: After epidural anesthesia, 41 (38.32%) parturient women had hypotension. Basic values of HR and PVI before anesthesia in Group B were significantly higher than Group A (both $p < 0.001$). The area under the ROC curve (AUC) of PVI basic value predicting hypotension was 0.824 (95% CI: 0.746-0.903, $p < 0.001$), was greater than the AUC of HR basic value predicting hypotension, and the sensitivity and specificity of predicting hypotension were 92.7% and 66.7%, respectively.

Conclusion: The PVI and HR values before anesthesia have certain value in predicting hypotension after epidural anesthesia in cesarean section. PVI value before epidural anesthesia has more clinical significance than the HR. Key Words: Pleth variability index (PVI, Heart rate (HR), Epidural anesthesia, Cesarean, Hypotension.