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Role of pleth variability index for predicting hypotension after spinal anesthesia for cesarean section.

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BACKGROUND: Hypotension is frequently observed after spinal anesthesia for cesarean section and can be detrimental to both mother and baby. We investigated the role of the pleth variability index for predicting hypotension after spinal anesthesia for cesarean section.

METHODS: Eighty-five parturients undergoing elective cesarean section under spinal anesthesia were enrolled. We recorded pleth variability index and perfusion index before anesthesia, and blood pressure, heart rate and pulse oxygen saturation before and after anesthesia. The association between baseline pleth variability index and perfusion index with hypotension after spinal anesthesia was explored using multivariate analysis.

RESULTS: Hypotension occurred in 42 parturients. Baseline pleth variability index was higher in parturients who experienced hypotension than in those who did not ($P<0.05$), although there was no difference in baseline perfusion index. The area under the receiver operating characteristic curve was 0.66 for baseline pleth variability index for the prediction of hypotension ($P<0.05$). Baseline pleth variability index was significantly related to the incidence of hypotension ($P=0.017$), but was not significantly related to the magnitude of the decrease in systolic blood pressure. Baseline perfusion index was not significantly related to the magnitude of the decrease in systolic blood pressure.

CONCLUSION: Greater baseline pleth variability index was associated with hypotension after spinal anesthesia for cesarean section, but may not be a clinically useful predictor.