

Postoperative Supplemental Oxygen is Unnecessary in Low Risk Cesarean Delivery Parturients Under Spinal Anesthesia: An Observational Study

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Abstract: Postoperative supplemental oxygen is unnecessary in low risk cesarean delivery parturients under spinal anesthesia: An observational study

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Background and objective: Desaturation is one of the four most common anesthetic-related adverse events in cesarean sections¹. However, the incidence of desaturation demonstrated by the THAI study was rare, occurred in only 6.46 per 10,000 spinal anesthetics (0.06%) in general patients². The incidence of maternal desaturation after cesarean section in the postanesthetic care unit (PACU) has not been thoroughly reported. The purpose of this study was to evaluate the incidence of desaturation, and to consider the need for supplemental oxygen in patients while being monitored in the PACU. **Methods:** This

descriptive study was conducted in a tertiary hospital. Low-risk consecutive parturients undergoing cesarean section under spinal anesthesia were enrolled. None of the subjects received supplemental oxygen upon arrival at the PACU. Their oxygen saturation was continuously monitored using a pulse oximeter. Desaturation was defined as an oxygen saturation $\leq 94\%$ for more than 30 seconds^{3,4}. The respiratory rate, non-invasive blood pressure, Ramsay sedation score and pain score were recorded at the patient's arrival, every 15 minutes to 90 minutes, or until the patients were discharged from the PACU. The time

point of desaturation, sedation score during the desaturation event, the treatment for desaturation, analgesic agents given, complications in the PACU and the modified Aldrete score before discharge were also recorded. **Statistical analysis:** A sample size of at least 164 patients was needed to detect a 4% incidence of desaturation in the PACU of the patients undergoing regional anesthesia⁵, with an allowable error of 3% based on a 95% confidence interval. Data was presented as mean \pm standard deviation (SD) or a number(percent), as appropriate. The descriptive statistics were applied to analyze the data using a software program, SPSS for Windows, version 18, SPSS Inc., Chicago, IL, USA. **Results:** The data of 324 healthy term parturients undergoing cesarean section under spinal anesthesia were included. The incidence of postoperative desaturation was only 0.3% (1 out of 324 subjects) in the PACU. The patient concerned was cooperative, oriented and tranquil (stage 2 of Ramsay sedation score). She became alert and breathed deeper after awakening. Therefore, no sequelae of desaturation occurred even though the patient did not receive supplemental oxygen. **Conclusion:** The incidence of postoperative desaturation in healthy parturients undergoing elective cesarean delivery under spinal anesthesia was uncommon. The routine administration of supplemental oxygen in the PACU is therefore unnecessary.

Reference

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