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Adequate Strategy of Administrating Vasopressors for Maternal Hypoxemia Induced by Combined Vertebral Epidural Anesthesia in Elective Cesarean Section

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Descripiton

When compared to general anaesthesia, combined spinal-epidural anaesthesia (CSE anaesthesia) is frequently used for elective caesarean sections because it results in less medication exposure for the foetus. It also allows the mother to remain conscious during the delivery. However, the most common side effect of spinal anaesthesia is maternal hypotension, which affects 90% of patients and has been linked to nausea and vomiting. Fetal bradycardia [1-3] and cardiovascular collapse may occur in severe cases. Despite numerous reports on the subject, research on the continuous sequence of events involving the mother and newborn is limited. In one study that compared general anaesthesia and CSE anaesthesia for elective caesarean section, no difference in the development of transient tachypnea was observed between newborns who received general anaesthesia and those who received CSE anaesthesia, despite the fact that maternal blood pressure was not measured.

Spinal anaesthesia has also been linked to neonatal acidosis and sustained hypotension, and the time to delivery has been linked to this adverse event. In clinical practise, vasopressors are commonly used to treat maternal hypotension caused by spinal anaesthesia. However, there has been no agreement on how they should be used. We looked into continuous phenylephrine administration before CSE anaesthesia to prevent maternal hypotension, as well as continuous bolus administration of phenylephrine or ephedrine when blood pressure dropped. The primary outcome was reduced variability in maternal blood pressure, and the secondary outcome was the effect on the newborn. As a result, we concentrated on maternal blood pressure variability and maternal background, and we investigated the neonatal impact from multiple angles. The phenylephrine model and the bolus model were chosen to study maternal circulatory changes and their effects on the newborn.

In the medical literature, the CSE technique has been described for use in general surgery, orthopaedics, lower limb trauma surgery, and urological and gynaecological surgery. Clinical studies have shown that the CSE technique provides excellent surgical conditions as quickly as a single-shot subarachnoid block and is superior to epidural block alone. When compared to epidural anaesthesia, the CSE technique establishes surgical anaesthesia quickly, saving 15-20 minutes. Furthermore, epidural catheterization allows for the supplementation of subarachnoid anaesthesia [4,5], which can be insufficient when used alone. The CSE technique is widely used in obstetric practise to provide parturients with optimal analgesia. It provides effective, fast-acting analgesia with little risk of toxicity or motor block. Furthermore, the use of an epidural catheter allows for the prolongation of analgesia, which is frequently required during labour. In addition, if an operative delivery is required, the same epidural catheter can be used to provide operative anaesthesia. Spinal analgesia begins almost immediately and lasts between 2 and 3 hours, depending on the agent or agents used.

CSE has been used for a wide variety of non-obstetric surgery in adults including orthopaedic, urological, vascular, gynaecological, and general surgical procedures. There have been reports of its use as the sole anaesthetic technique in patients undergoing sigmoid colectomy and abdominal aortic aneurysm repair. The technique has also been used for inguinal hernia repair in neonates.The benefits of using CSE to provide analgesia in labour include the rapid onset of pain relief compared with a conventional epidural technique (particularly in late labour) and maintenance of the ability to ambulate. A recent Cochrane review of 14 randomized controlled trials comparing CSE with epidural analgesia in labour confirmed that CSE provides faster onset of effective pain relief along with a higher incidence of maternal satisfaction. However, the review found no difference between CSE and epidural techniques with regards to maternal mobility, the incidence of post-dural puncture headache, the rate of forceps delivery, or the rate of caesarean section.

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Conflict of Interest

Authors declare no conflict of interest

References

1. Ozden Omaygenc, Derya, Tugba Dogu and Mehmet Onur Omaygenc, et al. "Type of anesthesia affects neonatal wellbeing and frequency of transient tachypnea in elective cesarean sections." *J Matern Fetal Neonatal Med* 28 (2015): 568-572.
2. Knigin, David, Alexander Avidan, and Carolyn F. Weiniger. "The effect of spinal hypotension and anesthesia-to-delivery time interval on neonatal outcomes in planned cesarean delivery." *Am J Obstet Gynecol* 223 (2020): 747-e1.
3. Hall P.A, A. Bennett, M. P. Wilkes and M. Lewis. "Spinal anaesthesia for caesarean section: Comparison of infusions of phenylephrine and ephedrine." *Br J Anaesth* 73 (1994):471-474.
4. Raghuraman, Nandini, Lorene A. Temming and Molly J. Stout, et al. "Umbilical cord oxygen content and neonatal morbidity at term." *Am J Perinatol* 35 (2018): 331-335.
5. Robson, S.C., R.J. Boys, C. Rodeck and B. Morgan. "Maternal and fetal haemodynamic effects of spinal and extradural anaesthesia for elective caesarean section." *Br J Anaesth* 68 (1992): 54-59.

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