



(CASE REPORT)



Combined Spinal-Epidural (CSE) technique plus ketamine in research laparotomies with vertical incision: Case report

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Abstract

The combined spinal-epidural (CSE) technique, a comparatively new anesthetic choice, includes an initial subarachnoid injection followed by epidural catheter placement and subsequent administration of epidural medications. Clinical studies have demonstrated that the CSE technique provides excellent surgical conditions as quickly as with single-shot subarachnoid block conditions that are better than with epidural block alone. A 72-year-old man with pelvic tumor undergoing laparotomy surgery underwent combined regional anesthesia (Th12 - O1) plus small doses of Ketamine via intravenous infusion. The combined spinal-epidural technique along with intravenous Ketamine offers a better analgesic and hemodynamic result.

Keywords: CSE; Anesthesia; Epidural; Spinal; Ketamine; Laparotomies

1. Introduction

The combination (CSE) allows for rapid relief of pain or induction of regional anesthesia by the rapid onset of spinal drugs and subsequent administration of medications for prolonged anesthesia [1-4]. In addition, postoperative analgesia via the epidural catheter can be delivered for extended periods [5-6]. Clinical studies have demonstrated that the CSE technique provides excellent surgical conditions as quickly as the single-shot subarachnoid block and with advantages in comparison to the conventional epidural block. The CSE technique has been described in the medical literature for use in general surgery, orthopedics, trauma surgery of a lower limb, and urological and gynecological surgery [7-11].

2. Case study

A 72-year-old man with a known history of obstructive pulmonary disease and pelvic tumor, undergoing laparotomy surgery, underwent combined regional anesthesia (Th12 - O1) with subarachnoid infusion of 2.6 ml chirocaine 0.5%, 200 µg morphine and 0.1 ml Lidocaine 2%. Epidural infusion by placement of an epidural catheter with a test dose of 3 ml Lidocaine 2% and 5 ml Naropaine 0.75% and 15 minutes later an additional 5 ml Naropaine 0.75%. The patient was also given: Onda 4 mg, Dormicum 1 mg and Ketamine 20 mg plus 20 mg, 15 minutes later, by intravenous infusion. The patient was constantly monitored with ECG, NBP, and SpO2 monitoring. Hydrated with 1 lt Plasmalite and then titrated with 1 lt Ringers Lactate.

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3. Management and Outcome

Combined subarachnoid - epidural anesthesia was given because the goal was to rapidly begin the blockade with subarachnoid anesthesia and the incision was extensive and the laparotomy particularly laborious due to the location of the tumor. It was enhanced with epidural infusion of the drug. Blockade rise to a satisfactory level so that intense surgical manipulations do not cause discomfort to the patient. In subarachnoid blockade, chirocaine 0.5% was preferred because it is distinguished for its hemodynamic stability and was combined with a small dose of 2% lidocaine for faster onset of blockade, as well as morphine 200 mcg for better blockade and postoperative analgesia. After the installation of the subarachnoid block, the height of the block (its dermatome installation) as well as the hemodynamic stability of the patient were checked and after it was documented, then 5 ml Naropain 0.75% was given. After 15 minutes and after maintaining a satisfactory blood pressure, an additional 5 ml of 0.75% Naropain was given. Ketamine was also given as an intravenous infusion, which induces dissociative anesthesia and provides analgesia without suppressing the respiratory system.

4. Discussion

Combined subarachnoid - epidural anesthesia is ideal anesthesia for patients who are unable to undergo general anesthesia, such as patients with chronic respiratory disease, who would be referred to an Intensive Care Unit as their respiratory tract does not allow their good postoperative course. The patient in the study was a respiratory patient with chronic obstructive pulmonary disease, who could not be released from the ventilator if he was under general anesthesia. In addition, epidural catheter dilation adds a complete analgesic effect postoperatively, as epidural doses can be given postoperatively or a continuous infusion drug pump can be connected epidurally and a satisfactory level of analgesia maintained.

5. Conclusion

It has been found that combined local anesthesia excels and offers better exclusion and the combination with ketamine leads to a better hemodynamic and analgesic result.

Compliance with ethical standards

Acknowledgments

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Statement of informed consent

Written informed consent was obtained from the patient for publication of this case report.. A copy of the written consent is available.

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