

General anesthesia in Geriatric patients in combination with Epidural anesthesia in the right colectomy

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Abstract

Aging involves a progressive loss of functional reserve in all organ systems, to variable extend. Moreover, perioperative morbidity becomes more frequent in the elderly with steep increases after the age of 75. The elderly are more sensitive to anesthetic agents and generally require smaller doses for the same clinical effect, and drug action is usually prolonged. In the study, a 78-year-old man with Chronic obstructive pulmonary disease (COPD) and a cardiac history underwent a right colectomy with a combination of general and epidural anesthesia. The purpose of this paper is to investigate the beneficial effects of epidural anesthesia when it acts in combination with general anesthesia in elderly patients.

Keywords: Geriatric; Anesthesia; General; Epidural; COPD; Colectomy

1. Introduction

Geriatric patients are more sensitive to anesthetic agents. Less medication is usually required to achieve a desired clinical effect, and drug effect is often prolonged. The most important outcome and overall objective of perioperative care of geriatric population, is to speed recovery and avoid functional decline. The risk from anesthesia is more related with the presence of co-existing disease than with the age of the patient. Minimizing perioperative risk in geriatric patients requires thoughtful preoperative assessment of organ function and reserve, meticulous intraoperative management of coexisting disorders, and vigilant postoperative pain control [1-8].

2. Case Study

A 78-year-old man weighing 80 kg with a history of ulcerative colitis, with known emphysematous lung lesions, COPD and a surgical abdominal aortic aneurysm came for a right colectomy. The patient was placed in an epidural catheter at the level: lumbar 1 - lumbar 2. A test dose of 3 ml Lidocaine 2% was given and then under continuous monitoring with ECG, ART, SpO₂, an additional 5 ml Naropaine 0.75% was given. Anesthesia was introduced with 0.1 mg Fentanyl, 200 mg Propofol and Esmeron 100 mg. The patient was rescued on a Drager ventilator with volume control model and PEEP 5. Bronchial aspirations were performed with 100% O₂ and Flexotide 250 mcg and Aeroline 100 mcg were given tracheally. An additional 2 mg of Morphine was given through the epidural catheter and a continuous infusion pump was pumped with a flow of 5 ml Naropaine 2% per hour. Maintenance of anesthesia was performed with Sevoflurane 2%, and an additional 3 mg of Morphine was given intravenously. Additionally Onda 4 mg, Dexaton 8 mg and Apotel 1g were given. The patient was hydrated with 1Lt Plasmalite slow intravenous administration and 1Lt Lactated Ringer's injection intravenous infusion. The awakening was reversed with Bridium, as repeated doses of Esmeron were given during the four-hour surgery.

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3. Management and outcome

The combination of general and epidural anesthesia offers the advantage of hemodynamic stability with satisfactory analgesia and reduced intravenous opioid administration intraoperatively, resulting in the patient waking up at the end of the surgery, without being transferred to an intensive care unit.

4. Discussion

Functional capacities of the respiratory system are all reduced in the geriatric patients. Decrease in chest wall compliance and the strength of respiratory muscles, making the lungs more difficult to ventilate and declining in maximum inspiratory and expiratory force. Increased alveolar compliance with collapse of small airways and subsequent alveolar hypoventilation, air trapping leading to ventilation perfusion mismatch. The hemodynamic effects of regional anesthesia may be associated with reduced blood loss in pelvic and lower extremity operations. More important, the patient maintains his airway and pulmonary function. The continuous injection of local anesthetic through the epidural catheter enables good postoperative analgesia and the avoidance of complications in respiratory patients with or without cardiac substrate.

5. Conclusion

The combination of general and epidural anesthesia is a good choice in the elderly, especially when they undergo major abdominal surgeries as the dose of intravenous opioids is reduced and satisfactory intraoperative and postoperative analgesia is achieved.

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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