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CASE REPORT

**EMERGENCY THORACIC EPIDURAL
ANESTHESIA WITH ROPIVACAINE FOR A
CACHECTIC GERIATRIC PATIENT WITH ILEUS**

ABSTRACT

Objective: Operations associated with increased risk of perioperative mortality and morbidity lead to consider regional anesthesia techniques for elderly patients. Epidural analgesia is used widely combined with general anesthesia. In this case, it is discussed whether solely thoracic epidural technique with ropivacaine provide appropriate anesthesia or not in emergency situations for elderly patients.

Case Report: A 73-year-old cachectic male diagnosed with ileus was scheduled for an emergency laparotomy. He had congestive heart failure with hypertension, tachycardia and tachypnea with jugular venous distension. Thoracic epidural anesthesia were performed with ropivacaine 75 mg. Total colectomy and ileorectal anastomosis were performed. The patient discharged uneventful postoperatively.

Conclusion: Epidural anesthesia with ropivacaine was provided fast and effective anesthesia without sedation in the elderly patient with ileus. This technique should be used safely especially with it's advantages for cardiovascular and pulmonary compromised elderly patients.

Key words: Elderly, Emergency, Epidural anesthesia, Ileus, Ropivacaine.



OLGU SUNUMU

**KAŞEKTİK GERİATRİK BİR İLEUSLU OLGUDA
ACİL TORASİK EPİDURAL ANESTEZİ**

Öz

Giriş ve Amaç: İleri yaş grubundaki ameliyatlara perioperatif mortalite ve morbidite yönünden yüksek riski beraberinde getirdiği için rejyonel anestezi tekniklerine yönelme gereği doğmaktadır. Bunlardan epidural analjezinin kullanımı genellikle genel anestezi ile birlikte yaygındır. Burada bir olgu aracılığı ile ropivakainle yapılan torasik epidural anestezinin ileri yaş grubu acil olgularda tek başına yeterli olup olmayacağı tartışılmaktadır.

Olgu: İleus tanısı alan 73 yaşındaki kaşektik olgu acilen laparotomiye alınmak üzere hazırlandı. Yüksek tansiyon, taşikardi ve juguler venöz distansiyonla taşipnenin eşlik ettiği konjestif kalp yetmezliği mevcuttu. Torasik epidural anestezi 75 mg ropivakain ile gerçekleştirildi ve kolon adenokarsinomu tesbit edilen hastaya total kolektomi ve ileorektal anastomoz yapıldı. Postoperatif sorunsuz olarak hasta servisine devredildi.

Sonuç: İleus tanısı alan ileri yaş hastada epidural uygulanan ropivakainle hızlı ve etkili bir anestezi sağlandı. Bu tekniğin özellikle kardiyovasküler ve pulmoner yetmezlikli ileri yaş grubu hastalarda güvenle kullanılabileceği kanatına varıldı.

Anahtar sözcükler: Geriatri, Acil, Epidural anestezi, İleus, Ropivacaine.



INTRODUCTION

Half of all elderly patients will require surgery before they die, in spite of being at a threefold increased risk of perioperative death compared to younger patients. Operations associated with an increased risk of perioperative mortality and morbidity for elderly patients include thoracic, intraperitoneal (especially colon surgery), and major vascular procedures (1–4). Moracca *et al.* (5) reported a significant reduction in the perioperative cardiac morbidity (30%), pulmonary infections (40%), pulmonary embolism (50%), ileus (2 days), acute renal failure (30%), and blood loss (30%) using an epidural technique. They listed potential complications related to epidural anesthesia/analgesia (EA), ranging from transient paresthesias (<10%) to potentially devastating epidural hematomas (0.0006%). Most studies have demonstrated that EA improves the surgical outcome via beneficial effects on perioperative pulmonary function, blunting of the surgical stress response, and improved analgesia (6–9). EA has gained popularity with the improved postoperative outcome and attenuated physiologic response to surgery.

CASE

A 73-year-old male diagnosed with ileus was scheduled for an emergency laparotomy. He had congestive heart failure and was deemed to be at high risk by a consultant cardiologist in the emergency department. He had smoked one pack per day for 50 years and had taken lisinopryl 10 mg/day for hypertension for 2 years. His blood pressure was 170/90 mmHg, and he had tachycardia (123/min) and tachypnea with jugular venous distension. His laboratory values were Hb: 13.6, Hct: 35, Plt: 378, PT: 13, APTT: 34.3, INR: 1.22, Glu: 209, Urea: 59, BUN: 28, Cre: 1.55, AST: 40, and CK: 684. Routine monitoring was attached, the patient was placed in the left lateral position, and 18-G Tuohy needle was inserted via a median approach into the T9-T10 interspace using the loss-of-resistance technique with saline. A multi-orifice epidural catheter was inserted via the Tuohy needle, and placed 3 cm cephalad. To commence EA, 0.75% ropivacaine was injected at a rate of approximately 10 ml·min⁻¹. His blood pressure (BP) was 90/45 mmHg and heart rate (HR) was 112 beats·min⁻¹. The operation lasted 180 min. A top-up 37.5-mg dose of ropivacaine was administered every 45 min, for a total of three doses. The central venous pressure was between +6.5 and +12.5. During the operation, the urinary output was 120 ml. A total of 3,500 ml of crystalloid was given. Total colectomy and ileorectal anastomosis were performed. EA with 5 mg morphine was given in the postoperative care unit. The patient was discharged 1 week after the surgery.

DISCUSSION

Especially in the elderly, EA is a reliable technique with reduced cardiovascular and pulmonary complications. The intercostal musculature, ventilation, and cough reflex are well maintained. EA requires that the patient cooperate and has the physiological reserves to lie still for the duration of surgery. In addition, spinal and epidural anesthesia inhibit the endocrine–metabolic and inflammatory response with protein catabolism and improve postoperative catabolism. (1–4) Inadequate pain relief and the related emotional stress can markedly impair the immune response in the elderly. (10) One of the major advantages of EA is the lower incidence of postoperative thromboembolism due to peripheral vasodilatation and the maintenance of venous blood flow in the lower extremities (1–3).

The suggested block height is T4–T6 for an abdominal procedure.¹ Higher surgical procedures require concomitant general anesthesia (GA) to prevent the vagal reflex and pain from traction on the diaphragm, oesophagus, and the like. Lower abdominal procedures, as in this case, usually do not require concomitant GA or sedation. With EA, the postoperative mental status is also improved immediately after surgery in the elderly, unlike the undesired reduction after GA caused by too much anesthesia or drug interactions in patients with concomitant disease. Furthermore, thoracic EA has distinct advantages over both lumbar epidural or traditional patient-controlled analgesia in shortening the postoperative ileus and reducing surgical pain (11). Particularly in cachectic patients with cancer, it is expected to provide a better surgical outcome postoperatively than GA.

The administration of epidural local anaesthetics to patients undergoing laparotomy reduces gastrointestinal paralysis compared to systemic or epidural opioids, with comparable postoperative pain relief. Ropivacaine is an amide local anaesthetic that was introduced in 1997. Compared to bupivacaine, it is less lipid-soluble and less toxic, and is associated with fewer and less-severe central nervous and cardiovascular system adverse effects. EA with ropivacaine is characterised by less motor block compared to bupivacaine with minimised side effects. (1–3, 12) Hence, it should be used to allow early mobilisation following laparotomy in the elderly. This technique should be performed by an experienced anaesthetist to prevent dangerous side effects (3).

In this case, EA with ropivacaine resulted in satisfactory anesthesia with faster recovery. Haemodynamic stability and pain relief were established during and after the surgery. The patient was discharged to home 1 week after the surgery.



To facilitate early oral nutrition, improve convalescence, and reduce morbidity with decreased hospital stay, thoracic EA should be considered as a reliable anaesthetic technique compared to general anesthesia for appropriate emergency abdominal procedures in the elderly.

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REFERENCES

1. Muravchick S. Anesthesia for the geriatric patient. In: Barash PG, Cullen RK, Stoelting RK. ed. *Clinical Anesthesia*. 4th ed. Philadelphia, USA: LWW; 2001; pp1205-1216.
2. Morgan GE, Mikhail MS, Murray MJ. *Clinical anaesthesiology*. 3rd ed. USA: McGraw-Hill; 2002; pp 875-881.
3. Aitkenhead AR, Rowbotham DJ, Smith G... *Textbook of Anesthesia*. 4th ed. Spain: Churchill Livingstone; 2001; pp 619-628.
4. Zülfikaroglu B, Özalp N, Keşkek M, Bilgiç İ, Koç M. 80 yaş ve üzerindeki hastalarda acil abdominal cerrahi. *Turkish Journal of Geriatrics* 2005; 8:115-119.
5. Moraca RJ, Sheldon DG, Thirlby RC. The role of epidural anesthesia and analgesia in surgical practice. *Ann Surg* 2003; 238: 663-673.
6. Holte K, Kehlet H. Epidural anesthesia and analgesia - effects on surgical stress responses and implications for postoperative nutrition. *Clin Nutr* 2002; 21:199-206.
7. Carli F, Trudel JL, Belliveau P. The effect of intraoperative thoracic epidural anesthesia and postoperative analgesia on bowel function after colorectal surgery: a prospective, randomized trial. *Dis Colon Rectum* 2001; 44: 1083-1089.
8. Scott AM, Starling JR, Ruscher AE, DeLessio ST, Harms BA. Thoracic versus lumbar epidural anesthesia's effect on pain control and ileus resolution after restorative proctocolectomy. *Surgery* 1996; 120: 688-695.
9. Gianferrari P, Clara ME, Borghi B, Marzullo A, Voltolina M, De Paolis P, Montone N. Sufentanil vs morphine combined with ropivacaine for thoracic epidural analgesia in major abdominal surgery. *Minerva Anestesiol* 2001; 67: 155-159.
10. Yeager MP, Glass DD, Neff RK, Brinck-Johnsen T. Epidural anesthesia and analgesia in high-risk surgical patients. *Anesthesiology* 1987; 66: 729-736.
11. Chung F, Meier R, Lautenschlager E, Carmichael FJ, Chung A. General or spinal anesthesia: Which is better in the elderly? *Anesthesiology* 1987; 67: 422-427.
12. Chung FF, Chung A, Meier RH, Lautenschlager E, Seyone C. Comparison of perioperative mental function after general anesthesia and spinal anesthesia with intravenous sedation. *Can J Anaesth* 1989; 36: 382-387.