



REVISTA BRASILEIRA DE ANESTESIOLOGIA

Official Publication of the Brazilian Society of Anesthesiology
www.sba.com.br



SCIENTIFIC ARTICLE

Low-dose levobupivacaine plus fentanyl combination for spinal anesthesia in anorectal surgery

Mehtap Honca^{a,*}, Necla Dereli^a, Emine Arzu Kose^b, Tevfik Honca^c,
Selcen Kutuk^a, Selma Savas Unal^a, Eyup Horasanli^a

^a Department of Anesthesiology and Reanimation, Kecioren Training and Research Hospital, Ankara, Turkey

^b Department of Anesthesiology and Reanimation, Istanbul Medipol University, Medipol Mega Hospital, Istanbul, Turkey

^c Department of Medical Biochemistry, Gulhane Military Medical Academy, Ankara, Turkey

Received 19 November 2013; accepted 15 January 2014

Available online 20 February 2014

KEYWORDS

Hyperbaric
levobupivacaine;
Fentanyl;
Spinal;
Anorectal surgery

Abstract

Background: the aim of this study was to investigate the effects of spinal anesthesia using two different doses of fentanyl combined with low-dose levobupivacaine in anorectal surgery.

Methods: in this prospective, double-blind study, 52 American Society of Anaesthesiologists I–II patients scheduled for elective anorectal surgery were randomized into two groups. The patients in group I received intrathecal 2.5 mg hyperbaric levobupivacaine plus 12.5 µg fentanyl and in group II received intrathecal 2.5 mg hyperbaric levobupivacaine plus 25 µg fentanyl. All the patients remained in the seated position for 5 min after completion of the spinal anesthesia. Sensory block was evaluated with pin-prick test and motor block was evaluated with a modified Bromage scale.

Results: motor block was not observed in both of the groups. The sensory block was limited to the S2 level in group I, and S1 level in group II. None of the patients required additional analgesics during the operation. Time to two-segment regression was shorter in group I compared with group II ($p < 0.01$). One patient in group I and 5 patients in group II had pruritus. Hemodynamic parameters were stable during the operation in both of the groups.

Conclusion: spinal saddle block using hyperbaric levobupivacaine with both 12.5 µg and 25 µg fentanyl provided good quality of anesthesia without motor block for anorectal surgery in the prone position.

© 2014 Sociedade Brasileira de Anestesiologia. Published by Elsevier Editora Ltda. All rights reserved.

* Corresponding author.

E-mail: mehtaphonca@hotmail.com (M. Honca).

PALAVRAS-CHAVE

Levobupivacaína;
Fentanil;
Raquianestesia;
Cirurgia colorretal

Combinação de levobupivacaína em dose baixa e fentanil para raquianestesia em cirurgia anorretal**Resumo**

Justificativa: O objetivo deste estudo foi investigar os efeitos da raquianestesia com o uso de duas doses diferentes de fentanil em combinação com dose baixa de levobupivacaína em cirurgia anorretal.

Métodos: Neste estudo prospectivo e duplo-cego, 52 pacientes com estado físico ASA I-II, programados para cirurgia eletiva anorretal, foram randomicamente alocados em dois grupos. Os pacientes do Grupo I receberam 2,5 mg de levobupivacaína hiperbárica mais 12,5 µg de fentanil por via intratecal e os do Grupo II receberam 2,5 mg de levobupivacaína hiperbárica mais 25 µg de fentanil por via intratecal. Todos permaneceram em posição sentada por cinco minutos após o término da raquianestesia. O bloqueio sensorial foi avaliado com o teste da picada de agulha e o bloqueio motor com a escala modificada de Bromage.

Resultados: O bloqueio motor não foi observado em ambos os grupos. O bloqueio sensorial limitou-se ao nível S2 no Grupo I e S1 no Grupo II. Nenhum dos pacientes precisou de analgésico suplementar durante a operação. O tempo de regressão de dois seguimentos foi menor no Grupo I em comparação com o Grupo II ($p < 0,01$). Um paciente do Grupo I e cinco do Grupo II apresentaram prurido. Os parâmetros hemodinâmicos permaneceram estáveis durante a cirurgia em ambos os grupos.

Conclusão: O bloqueio espinhal em sela com o uso de levobupivacaína hiperbárica, tanto com 12,5 µg quanto com 25 µg de fentanil, proporciona boa qualidade de anestesia sem bloqueio motor para cirurgia anorretal em decúbito ventral.

© 2014 Sociedade Brasileira de Anestesiologia. Publicado por Elsevier Editora Ltda. Todos os direitos reservados.

Introduction

Spinal anesthesia for anorectal surgery is a popular and commonly used method characterized by rapid onset and offset, easy mobilization and short hospital stay.¹

Levobupivacaine hydrochloride is the pure S(-)-enantiomer of racemic bupivacaine with less effects to cardiovascular and central nervous system than bupivacaine.² Both hyperbaric levobupivacaine and isobaric levobupivacaine have been used in anorectal surgery.³⁻⁵ However there are not enough data yet, whether one form is superior to the other. Hyperbaric local anesthetics used in spinal saddle block in the prone position have some disadvantages. Patients are recommended to stay in the sitting position for several minutes after intrathecal administration to prevent the occurrence of hypotension. Also hyperbaric local anesthetic solutions might cause high levels of spinal anesthesia.^{6,7} The side effects can be reduced with using low doses of local anesthetics. Adjuvants such as fentanyl and sufentanil potentiate the afferent sensory blockade and facilitate reductions in the dose of local anesthetics.⁸ The aim of this prospective, double-blind, randomized trial was to compare the differences in sensory and motor blockade, patient and surgeon satisfaction and complications of intrathecal 2.5 mg hyperbaric levobupivacaine plus 12.5 µg fentanyl with intrathecal 2.5 mg hyperbaric levobupivacaine plus 25 µg fentanyl.

Materials and methods

After approval from the Hospitals Ethics Committee and obtaining patients' written informed consent, 52 patients, aged >18 years, with American Society of Anaesthesiologists

(ASA) physical status I and II scheduled for ambulatory anorectal surgery, were included in this study.

Patients were randomized into two groups using a computer-generated randomization sequence with sealed envelopes. Patients with abnormal coagulation profiles, severe cardiopulmonary disease, diabetes, peripheral neuropathy, infection at the injection site, marked scoliosis, and patients receiving chronic analgesic therapy were excluded from the study. None of the patients received premedication. Patients were monitored with electrocardiogram, noninvasive arterial blood pressure and pulse oximetry in the operating room. A 20-G cannula was inserted at the dorsum of the left hand and 8 mL/kg/h of 0.9% sodium chloride infusion was established 1 h before initiation of the regional block. Group I ($n = 26$) received 2.5 mg hyperbaric levobupivacaine 0.5% (5 mg/mL, Chirocaine, Abbott Laboratories, North Chicago, IL, USA) plus 12.5 µg fentanyl whereas Group II received ($n = 26$) 2.5 mg hyperbaric levobupivacaine 0.5% (5 mg/mL, Chirocaine, Abbott Laboratories, North Chicago, IL, USA) plus 25 µg fentanyl. Both of the solutions were aseptically prepared by an anesthesiologist blinded to the study. All solutions were completed to a total volume of 2 mL with 10% dextrose solution. The specific gravity of the solutions was determined with a refractometer (T2-NE, Atago Co. Ltd, Japan), measured at 37 °C. The specific gravity of the mixture used in group I was 1025 g mL⁻¹ and was 1020 g mL⁻¹ in group II. Due to the specific gravity of cerebrospinal fluid is 1003–1008 g mL⁻¹ at 37 °C, these mixtures were accepted as hyperbaric. Spinal anesthesia was performed at the L4-5 or L5-S1 intervertebral space using a 25 G Quincke type of spinal needle in the seated position. The test solution was injected slowly in 2 min and the patients were kept in the sitting position for 5 min to achieve sufficient block. Sen-

Download English Version:

<https://daneshyari.com/en/article/2750223>

Download Persian Version:

<https://daneshyari.com/article/2750223>

[Daneshyari.com](https://daneshyari.com)