Bloqueio do Plexo Lombar pela Via Posterior para Analgesia Pós-Operatória em Artroplastia Total do Quadril. Estudo Comparativo entre Bupivacaína a 0,5% com Epinefrina e Ropivacaína a 0,5%*

Posterior Lumbar Plexus Block in Postoperative Analgesia for Total Hip Arthroplasty. A Comparative Study between 0.5% Bupivacaine with Epinephrine and 0.5% Ropivacaine

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RESUMO

Duarte LTD, Paes FC, Fernandes MCBC, Saraiva RA - Bloqueio do Plexo Lombar pela Via Posterior para Analgesia Pós-Operatória em Artroplastia Total do Quadril. Estudo Comparativo entre Bupivacaína a 0,5% com Epinefrina e Ropivacaína a 0,5%.

JUSTIFICATIVA E OBJETIVOS: O bloqueio do plexo lombar pela via posterior promove analgesia pós-operatória efetiva na artroplastia total do quadril. Ropivacaína e bupivacaína não apresentaram qualquer diferença na eficácia analgésica em diferentes bloqueios de nervos periféricos. O objetivo deste estudo foi comparar a eficácia da analgesia pós-operatória resultante da administração em dose única da bupivacaína a 0,5% ou da ropivacaína a 0,5% no bloqueio do plexo lombar pela via posterior na artroplastia total do quadril.

MÉTODO: Trinta e sete pacientes foram alocados aleatoriamente em dois grupos, segundo o anestésico local utilizado no bloqueio: Grupo B – bupivacaína a 0,5% com epinefrina 1:200.000 ou Grupo R - ropivacaína a 0,5%. Durante o período pós-operatório, os escores de dor e o consumo de morfina na analgesia controlada pelo paciente foram comparados entre os grupos. O sangramento durante a operação e a incidência de efeitos adversos e de complicações também foram comparados.

RESULTADOS: Apesar dos escores de dor terem sido menores no Grupo R 8, 12 e 24 horas após o bloqueio, essas diferenças não foram clinicamente significativas. Regressão linear múltipla não identificou o anestésico local como variável independente. Não houve diferença no consumo de morfina, no sangramento intraoperatório e na incidência de complicações e efeitos adversos entre os dois grupos.

CONCLUSÕES: A bupivacaína a 0,5% e a ropivacaína a 0,5% produziram alívio eficaz e prolongado da dor pós-operatória após artroplastia total do quadril, sem diferença clínica, quando doses equivalentes foram administradas no bloqueio do plexo lombar pela via posterior.

Unitermos: ANALGESIA, Pós-operatória; ANESTÉSICOS, Local: bupivacaína, ropivacaína; CIRURGIA, Ortopédica: artroplastia de quadril; TÉCNICAS ANESTÉSICAS, Regional: bloqueio do plexo lombar.

SUMMARY

Duarte LTD, Paes FC, Fernandes MCBC, Saraiva RA – Posterior Lumbar Plexus Block in Postoperative Analgesia for Total Hip Arthroplasty. A Comparative Study between 0.5% Bupivacaine with Epinephrine and 0.5% Ropivacaine.

BACKGROUND AND OBJECTIVES: Posterior lumbar plexus block promotes effective postoperative analgesia in total knee arthroplasty. Ropivacaine and bupivacaine do not show differences in analgesic efficacy when used in different peripheral nerve blocks. The objective of this study was to compare the efficacy of postoperative analgesia resulting from the administration of a single dose of 0.5% bupivacaine or 0.5% ropivacaine in posterior lumbar plexus block for total hip arthroplasty.

METHODS: Thirty-seven patients were randomly divided in two groups according to the local anesthetic used: Group B – 0.5% bupivacaine with 1:200,000 epinephrine; or group R – 0.5% ropivacaine. During the postoperative period, pain scores and morphine consumption in patient controlled analgesia were compared between groups. Bleeding during surgery and the incidence of side effects and complications were also compared.

RESULTS: Although pain scores were lower in Group R 8 hours, 12 hours, and 24 hours after the blockade, these differences were not clinically significant. Multiple linear regression identified the local anesthetic as an independent variable. Differences in morphine consumption, intraoperative bleeding, and the incidence of complications and side effects were not observed between both groups.

CONCLUSIONS: 0.5% Bupivacaine and 0.5% ropivacaine produced effective and prolonged postoperative pain relief after total hip arthroplasty, without clinical differences, when equivalent doses were administered for posterior lumbar plexus block.

Keywords: ANALGESIA, Postoperative; ANESTHETICS, Local: bupivacaine, ropivacaine; ANESTHETIC TECHNIQUES, Regional: lumbar plexus block; SURGERY, Orthopedic: hip arthroplasty.

usually are elderly and present different associated comorbidities. Effective relief of postoperative pain is essential for patient comfort and satisfaction, allows greater mobility, minimizes postoperative morbidity and mortality, and promotes faster recovery by preventing or decreasing muscle spasms that hinder early joint mobilization [1-4].

Pain after total hip arthroplasty is severe, especially during the first 24 hours after surgery [5]. Techniques used more commonly for analgesia after total hip arthroplasty include patient-controlled analgesia (PCA) with IV opioids [2], subarachnoid analgesia [6], epidural analgesia [7], and anterior [2] or posterior (psoas compartment block) lumbar plexus block [8,9]. Posterior lumbar plexus block promotes effective unilateral analgesia after total hip arthroplasty, reducing pain scores and consumption of analgesics [9,10].

Large volumes of local anesthetics (30 to 40 mL) are used in psoas compartmental block, although experience indicates that the administration of 20 to 25 mL of anesthetic solution is enough [11]. Since large volumes of local anesthetics can be administered, it is important to choose an agent with low toxicity. Ropivacaine is less cardio- and neurotoxic than bupivacaine [12,13]. Besides, the vasoconstrictor effect of ropivacaine may be beneficial when blocking areas with a rich vascularization, with the possibility of fast local anesthetic absorption [14]. Despite of apparently being less potent than bupivacaine [15], the analgesic efficacy of ropivacaine has not shown to be different from bupivacaine in different peripheral nerve blocks [16-22].

The objective of this study was to compare the quality of postoperative analgesia of the posterior lumbar plexus block after the administration of a single dose of 0.5% bupivacaine with 1:200,000 epinephrine or 0.5% ropivacaine in patients undergoing total hip arthroplasty. Secondary objectives included comparing the incidence of side effects and complications, bilateral blockade, and intraoperative bleeding.

METHODS

After approval by the Ethics Commission of Rede SARAH de Hospitais de Reabilitação, all patients signed an informed consent. This randomized double-blind clinical trial included consecutive patients with physical status ASA I to III undergoing primary total hip arthroplasty. Exclusion criteria included: history of peripheral neuropathies, coagulopathies, prior surgery or deformity of the spine; dementia or other mental states that affect the ability of the patient to use of PCA or visual analog scale (VAS), hypersensitivity to the analgesic agents used; and the preoperative use of opioids.

Patients were randomly divided in two groups based on a computer-generated table of random permutations and presented in closed, opaque envelopes. A nurse prepared the anesthetic solution and the anesthesiologist was unaware of which local anesthetic was being injected in the lumbar plexus. All patients underwent the same anesthetic technique, which included general anesthesia combined with posterior

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INTRODUCTION

Clinical experience has demonstrated that postoperative pain in total hip arthroplasty is severe and worsens with patient mobilization. Patients undergoing total hip arthroplasty

lumbar plexus block with 0.5% bupivacaine with 1:200,000 epinephrine (Group B, 20 patients) or 0.5% ropivacaine (Group R, 19 patients).

All patients received 5 mg of oral diazepam the previous night and in the morning of the surgery as pre-anesthetic medication. Upon arrival to the anesthesia room, patients were monitored with continuous electrocardiogram, pulse oximetry, non-invasive blood pressure, capnography with analysis of expired gases, and hourly urine output. General anesthesia preceded the lumbar plexus block and it was induced with the intravenous administration of 20 µg.kg^{-1} of alfentanil, 2 mg.kg^{-1} of propofol, and 1 mg.kg^{-1} of succinylcholine. After tracheal intubation, anesthesia was maintained with sevoflurane (expired concentration of 1.2% - 1.3%) in a 50%-mixture with oxygen and nitric oxide, with controlled mechanical ventilation to maintain normocapnia.

Afterwards, patients were placed in lateral decubitus with the hip partially flexed and the member to be operated in a non-dependent position. Reversion of muscle paralysis with succinylcholine was confirmed before the blockade of the psoas compartment based on when the patient resumed spontaneous ventilation. A single dose of the drug was used for the lumbar plexus block. The needle was introduced perpendicularly to the skin at the junction of the lateral third and the medial two thirds of a line between the spinous process of L$_4$ and posterior superior iliac spine, where it was crossed by a line parallel to the spine[8]. All blocks were performed by anesthesiologists experienced on this technique (LTDD and FCP). The lumbar plexus was located by the identification of contractions of the quadriceps muscle using a peripheral nerve stimulator (Stimuplex Dig RC, BBraun, Melsungen, Germany). Initially, 1.5 mA, 50 µs, and 2 Hz stimuli were used. A 21G, 100-mm long, non-cutting bevel needle electrically isolated (Stimuplex A, BBraun, Melsungen, Germany) was used. After identifying the motor response, final needle positioning was determined based on the best motor response to stimuli of 0.35 mA to 0.5 mA. A volume of 0.4 mL.kg^{-1} of the anesthetic solution (2 mg.kg^{-1}) was administered after the negative aspiration of blood and CSF in all patients. The moment of the injection of the local anesthetic was considered moment zero for all other subsequent evaluations.

During surgery, doses of vecuronium were administered as deemed necessary by the anesthesiologist to facilitate pulmonary ventilation. The efficacy of the lumbar plexus block was determined based on hemodynamic parameters during surgical stimulation. Blood pressure (BP) and heart rate (HR) were maintained within 30% above or below baseline levels. If systolic BP or HR rose more than 30% above baseline levels, the inspired concentration of sevoflurane was increased by 10% in 3-minute intervals between each change. If hemodynamic parameters were not corrected after three consecutive increases in sevoflurane concentration, intravenous doses of alfentanil, 10 µg.kg^{-1}, were administered. Reductions in systolic BP were corrected by reducing

the expired concentration of sevoflurane by 10% and the intravenous administration of ephedrine 5 mg at 30-minute intervals until the 30% limit in baseline levels variation was achieved.

After the patient arrived at the post-anesthetic care unit (PACU), PCA with intravenous morphine was initiated. The infusion pump (Pain Management Provider, Abbott Laboratories, Illinois, USA) was adjusted to administer doses of 40 µg.kg^{-1} of morphine (0.5 mg.mL^{-1}) with a 15-minute lockout interval, without limits for the number of doses. As part of multimodal analgesia, all patients received intravenous dypirone 20 mg.kg^{-1} every six hours, and tenoxicam 20 mg every 12 hours, and the first dose of each medication was administered at the end of the surgery.

During the postoperative period, pain scores at rest (VAS, where zero represent absence of pain and 10 indicates the worst possible pain) and the accumulated consumption of morphine were evaluated by a nurse who was not aware of the study design. Observations were done when patients first arrived at the PACU and 4, 8, 12, and 24 hours after the blockade. At the end of the 24-hour observation period, patients were asked about the highest pain score during the study period. Other parameters analyzed included intraoperative blood loss (estimated by weighing the surgical pads and measuring the volume of the blood in the suction cups minus the NS used to wash the surgical cavity); the number of postoperative packed-red blood cells transfused; the incidence of postoperative nausea and vomiting; the presence of postoperative dysesthesias; and the bilateral distribution of anesthesia (evaluated in the PACU by applying cold stimuli on contralateral dermatomes after the patient regained consciousness). Motor blockade of the operated limb was not evaluated due to the risk of prosthesis dislocation.

In this study, the hypothesis that postoperative analgesia eight hours after psoas compartment block with 0.5% ropivacaine is at least as effective as that of 0.5% bupivacaine and 1:200,000 epinephrine after total hip arthroplasty was tested. After a pilot study, mean pain scores at rest after the blockade with 0.5% bupivacaine and 1:200,000 epinephrine were 1.74 ± 2.38. Potency analysis indicated that 17 patients were necessary in each group to detect clinically relevant differences of 1.3 ± 0.6 in VAS eight hours after the blockade with 0.5% ropivacaine, with 80% potency, and a 5% level of significance (beta = 0.2 and alpha = 0.05).

Since all pertinent parameters presented a non-Gaussian distribution (Shapiro-Wilk test), the Mann-Whitney U bicaudal test was used to compare both groups. Pearson's Chi-square test was used to compare discrete parameters. Multiple linear regression, in which morphine consumption in 8 hours was adopted as a dependent parameter (a substitute for the efficacy of the blockade), was used to determine whether the local anesthetics behaved, in fact, as independent parameters when all other parameters are considered. When relevant, data were presented as mean ± standard deviation (SD) or as medians and interquartile intervals. Data were collected on Excel

(Microsoft, CA, USA) and the SPSS for Windows (Statistical Package for the Social Sciences, v. 13, Chicago, IL) and Stat View (SAS Institute, v. 5.0.1, Cary, NC, USA) where used for the statistical analysis. A $p \leq 0.05$ was considered significant.

RESULTS

During the study, 43 patients were scheduled for total hip arthroplasty. However, four patients were not included in the study because they were undergoing arthroplasty revision. Thus, 39 patients fulfilled the inclusion criteria and agreed to participate in the study. Two patients in group R were excluded. One patient developed total spinal block, and the other developed postoperative cognitive deficit, hindering the correct use o the PCA. Therefore, Group B had 20 patients and Group R had 17 patients.

Demographic characteristics did not differ between both groups (Table I). Similarly, duration of the surgery, volume of anesthetic administered, and intensity of the nerve stimulation current at the time of injection of the anesthetic were also similar (Table I). Based on anesthetic needs during surgery, block failures were not observed. Besides, supplementary doses of sufentanil were not necessary in any patient during surgery.

Figures 1 and 2 as well as table II show pain scores (VAS) and accumulated morphine consumption during the observation period. Group R had lower pain scores 8, 12, and 24 hours after the blockade ($p < 0.05$). Statistically significant differences in morphine consumption were not observed. Although it is not detailed here, morphine consumption in the intervals between observations was also analyzed, but it did not show statistically significant differences between both groups.

Table I - Demographic Characteristics of the Patients and Perioperative Parameters

	Group B n = 20	Group R n = 17	p
Age (years) *	58.5 ± 156	63.00 ± 14.08	0.36
Weight (kg) *	72.4 ± 15.4	68.25 ± 14.21	0.40
Gender (M/F) *	11 / 9	9 / 8	0.90
Physical Status ASA (I/II)	3 / 17	2 / 15	0.77
Length of surgery (min) *	134.6 ± 30.8	130.59 ± 36.19	0.72
Volume of anesthetic (mL) *	28.9 ± 6,1	27.3 ± 5.6	0.39
Stimulus intensity (mA) #	0.47 ± 0.04	0.47 ± 0.09	0.91

*Results expressed as Mean ± SD
Intensity of the stimulus during the injection of the anesthetic solution

Table II – Pain Scores and Accumulated Morphine Consumption in 24 Hours

	Group B N = 20	Group R N = 17	p
PACU	0 (0 − 3.00 [0 − 10.00])	0 (0 − 0 [0 − 8.00])	0.09
4 hours	1.00 (0 − 5.38 [0 − 8.00])	0 (0 − 5.00 [0 − 8.00])	0.79
8 hours	1.00 (0 − 3.50 [0 − 7.00])	0 (0 − 0 [0 − 7.00])	0.03
12 hours	0.50 (0 − 2.75 [0 − 9.00])	0 (0 - 0[0 − 6.00])	0.04
24 hours	0.50 (0 − 2.00 [0 − 7.00])	0 (0 − 0 [0 − 2.00])	0.03
Maximal	4.00 (2.00 − 6.75 [0 − 9.00])	3.0 (1.0 − 7.50 [0 − 10.00])	0.93
Morphine Consumption (mg)			
4 hours	0 (0 - 4.08 [0 − 7.00])	0 (0 − 3.70 [0 − 7.00])	0.98
8 hours	4.80 (0.48 − 12.70 [0 − 20.00])	5.00 (3.00 − 7.35 [0 − 14.00])	0.98
12 hours	8.60 (2.65 − 15.60 [0 − 28.00])	7.80 (5.00 − 11.80 [0 − 28.00])	0.89
24 hours	14.70 (7.50 − 27.53 [0 − 40.0])	10.20 (7.65 − 14.70 [2.00– 32.00])	0.33

Results expressed a median (interquartile interval [variation])
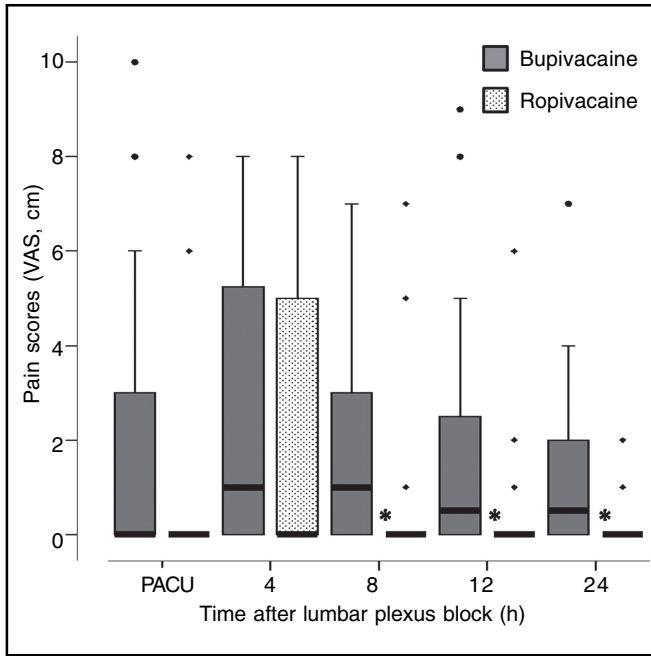PACU – post-anesthetic care unit

Figure 1 – Postoperative Pain Scores (VAS). The upper and lower extremes of the columns represent the 25th and 75th percentile; horizontal lines in the columns indicate the medians; and error bars represent the variations. In the absence of upper or lower extremes, the 25th and 75th percentiles, respectively, coincide with the medians. *p < 0.05 for differences between both groups at 8, 12, and 24 hours.
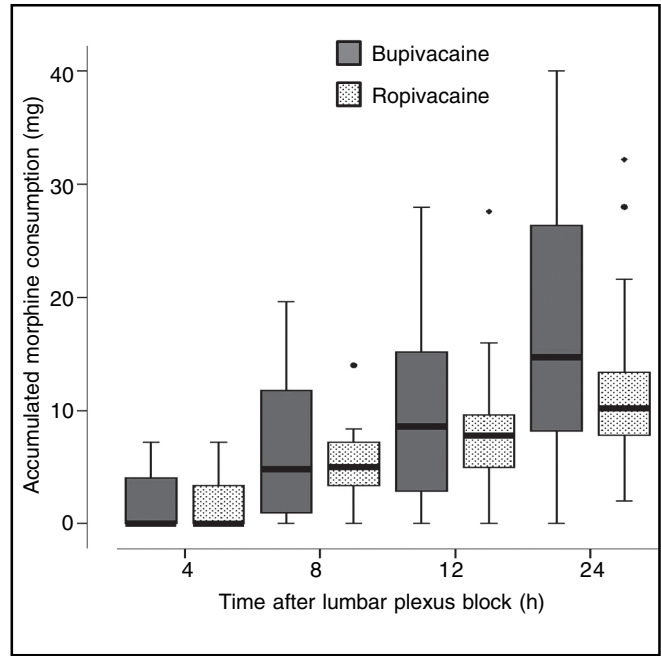

Figure 2 – Accumulated Postoperative Morphine Consumption. The upper and lower ends of the columns represent the 25th and 75th percentile; horizontal lines in the columns represent the medians; and the bars represent the variations. In the absence of upper or lower extremes, the 25th and 75th percentile, respectively, coincide with the median. Differences between the study groups were not observed.

Table III – Bleeding and Blood Transfusion

	Group B N = 20	Group R N = 17	p
Bleeding (mL) *	827.0 ± 552.6	788.5 ± 403.8	0.81
Blood transfusions			0.60
0	13	9	
1	4	4	
≥ 2	3	4	

*Results expressed as Mean ± SD

Corroborating the prior bivariate analysis, multiple linear regression did not identify the local anesthetic as an independent variable. In other words, the local anesthetic did not influence morphine consumption in 8 hours.

Intraoperative bleeding and the number of patients who needed postoperative blood transfusions did not differ between the study groups (Table III).

Only three out of 37 patients (8.1%; one patient in Group R and two in group B) developed bilateral blockade.

The incidence of nausea (29.4% and 30.0% in Groups R and B, respectively) and vomiting (17.6% and 15.0%, respectively) was similar in both groups. Dysesthesias and other neurological sequelae related with the lumbar plexus block were not observed up to the hospital discharge, as well as any signs of anesthetic toxicity or complications related with the lumbar puncture (hematoma, infection).

DISCUSSION

The present study demonstrated that the use of 0.5% ropivacaine for posterior lumbar plexus block in patients undergoing total hip arthroplasty resulted in significantly lower pain scores 8, 12, and 24 hours after the blockade when compared with 0.5% bupivacaine with 1:200,000 epinephrine.

Despite this, intravenous morphine consumption was not affected by the type of local anesthetic used.

Although ropivacaine was associated with lower pain scores, one should not overestimate the importance of such small differences. Pain scores were so similar that it is unlikely that the statistical significance has any clinical importance. Patient behavior was very similar in both groups and, probably, for this reason morphine consumption was similar in both study groups. Pain studies showed that the minimal difference in the 10-cm VAS should be at least 1.2 cm to be considered clinically significant [23].

The results of the present study are similar to that of other clinical trials in which analgesia promoted by different peripheral nerve blocks was the same, regardless of whether bupivacaine or ropivacaine was administered. Latency, potency, and duration of the blockade were similar and they were equally effective when equal concentrations and doses of ropivacaine and bupivacaine were used [17-22].

Other aspects should be considered and could have influenced the results. Total hip arthroplasties are associated with severe pain immediately after the surgery, but it usually is not long lasting, decreasing considerably in the first 24 hours [9,10]. After this period, the reduction in opioid consumption and pain scores is mostly due to the adoption of a multimodal analgesia regimen. This multimodal approach could have limited the probability of observing differences in pain scores at rest. It is possible that subtle differences in analgesia and efficacy of the blockade could have been masked. However, this postoperative strategy was used for ethical reasons. Besides, both groups were treated with equivalent doses of morphine in the PCA, anti-inflammatories, dypirone, and tenoxicam, therefore promoting similar analgesic effects in both groups.

The primary objective of this study was to compare the postoperative analgesia promoted by the local anesthetics studied. The accumulated dose of morphine was used as a substitute for blockade efficacy. Since all blocks were done under general anesthesia, it was not possible to compare the distribution and latency of the sensitive blockade. Similarly, the duration of the blockade was not evaluated due to the presence of the surgical dressing that covered the hip and thigh. In fact, according to the multiple linear regression, the local anesthetic did not influence morphine consumption. Since mean weight did not differ among patients, this parameter did not have any effect on the accumulated postoperative morphine consumption.

Despite the availability of several methods of postoperative analgesia for total hip arthroplasty, the best technique considering the efficacy and adverse events profile is not known yet. Studies have demonstrated that psoas compartment block promotes adequate analgesia and reduces morphine consumption after total hip arthroplasty [9,10]. Pain relieve is at least as effective as with PCA with morphine, but with a lower incidence of side effects and faster functional recovery [1,10]. In the present study, lumbar plexus block was effective in postoperative analgesia, under either bupivacaine or ropivacaine. Pain scores remained very low with both local anesthetics throughout the observation period. Since the single-dose block does not usually last more than 12 hours, this result indicates the efficacy of the PCA with morphine in the last 12 hours of the observation period.

A review of the literature found only one study by Greengrass et al. comparing the effects of ropivacaine and bupivacaine in posterior lumbar plexus block [18]. However, the authors studied patients undergoing knee arthroplasty combined it with a sciatic nerve block and they did not evaluate postoperative analgesia. Thus, the present study differs from the previous study since it compared the effects of equal doses of those two local anesthetics on postoperative analgesia of total hip replacement in which psoas compartment block was the main anesthetic technique.

Both agents were equally effective and side effects were of low intensity and did not differ between both groups. Other studies demonstrated that the incidence of nausea and vomiting did not differ when ropivacaine and bupivacaine were used in peripheral nerve blocks [21,22]. Since single-dose techniques are rare, complications at the puncture site, such as infection or hematoma were not observed.

The posterior approach to the lumbar plexus is associated with the risk of dispersion or inadvertent injection of the anesthetic solution in the epidural or subarachnoid space [24]. The incidence of epidural dispersion in this study was similar to those reported in the literature (2% to 26%) [10,25]. However, it is possible that the incidence reported here may have been underestimated. Despite the small percentage of bilateral sensitive blockades reported in the PACU, the presence of contralateral blockade was investigated more than three hours after the injection of the anesthetic. Epidural dispersion reverses three to four hours after the injection [11]. Thus, it is possible that possible cases of epidural block had already reversed by the time its presence was evaluated. Only the determination immediately after the blockade can guarantee strict evaluation. Mannion et al. [11] reported rates of contralateral dispersion of 33% to 40% when evaluation was performed 45 minutes after the blockade.

The present study does not have enough power to conclude on the toxicity profile of bupivacaine or ropivacaine in lumbar plexus block, since only 37 patients were included. Plasma levels of the local anesthetics or other markers of cardiotoxicity were not investigated. Further studies are necessary to determine which local anesthetic has the best toxicity profile for psoas compartment block.

This study has other aspects that also should be considered. First, the intention to treat strategy was not adopted, and two patients in Group R were excluded from the analysis. However, since the sample size guaranteed an elevated potency for the primary hypothesis, the results were not affected. Second, although patients were instructed on how to use the PCA device and VAS before the surgery, several patients had difficulties using them due to their cultural and socioeco-

nomic background. On the other side, this could have been minimized by the random distribution of patients.

All blocks were performed under general anesthesia. Posterior lumbar plexus block involves deep positioning of the needle and, when several attempts are necessary to obtain the best motor response, it can result in great patient discomfort. Consequently, the generalization of recommendations to avoid general anesthesia during regional block may limit the use of peripheral nerve blocks due to reduced patient acceptance. Besides, the literature has no evidence suggesting which technique is safer regarding the risk of neurologic damage. There are no studies comparing the risk of neurological complications in patients awake or under anesthesia. Studies have indicated that the risks of complications of peripheral nerve blocks after general anesthesia might not be higher than in awaken patients[26]. Regional blocks in deeply sedated patients or after induction of general anesthesia are routinely used in pediatric anesthesia. Severe neurologic damage after peripheral nerve blocks can be avoided by limiting the depth of the needle and using more lateral approaches when techniques of regional blocks are used close to the neuroaxis, regardless whether the patient is awake, sedated, or anesthetized[27].

To conclude, both ropivacaine and bupivacaine for posterior lumbar plexus block produced effective and prolonged postoperative analgesia, with mild pain scores (less than three centimeters in the VAS), in a regimen of multimodal analgesia after total hip arthroplasty. Clinical differences in pain scores were not observed, and morphine consumption was similar when equivalent doses of ropivacaine and bupivacaine were administered in the posterior lumbar plexus block for relief of pain after total hip arthroplasty.

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RESUMEN

Duarte LTD, Paes FC, Fernandes MCBC, Saraiva RA - Bloqueo del Plexo Lumbar por la Vía Posterior para Analgesia Postoperatoria en Artroplastia Total de la cadera. Estudio Comparativo entre Bupivacaína a 0,5% con Epinefrina y Ropivacaína a 0,5%.

JUSTIFICATIVA Y OBJETIVOS: *El bloqueo del plexo lumbar por la vía posterior, genera una analgesia postoperatoria efectiva en la artroplastia total de la cadera. La ropivacaína y la bupivacaína no arrojaron ninguna diferencia en la eficacia analgésica en diferentes bloqueos de nervios periféricos. El objetivo de este estudio, fue comparar la eficacia de la analgesia postoperatoria, resultante de la administración en dosis única de la bupivacaína a 0,5% o de la ropivacaína a 0,5% en el bloqueo del plexo lumbar por la vía posterior en la artroplastia total de la cadera.*

MÉTODO: *Treinta y siete pacientes fueron ubicados aleatoriamente en dos grupos según el anestésico local utilizado en el bloqueo: Grupo B – bupivacaína a 0,5% con epinefrina 1:200.000 o Grupo R - ropivacaína a 0,5%. Durante el período postoperatorio, los puntajes de dolor y el consumo de morfina en la analgesia controlada por el paciente, fueron comparados entre los grupos. El sangramiento durante la operación y la incidencia de efectos adversos y de complicaciones también fueron comparados.*

RESULTADOS: *Pese a que los puntajes de dolor hayan sido menores en el Grupo R 8 horas, 12 horas y 24 horas después del bloqueo, esas diferencias no fueron clínicamente significativas. La regresión lineal múltiple no identificó el anestésico local como una variable independiente. No hubo diferencia en el consumo de morfina, en el sangramiento intraoperatorio y en la incidencia de complicaciones y efectos adversos entre los dos grupos.*

CONCLUSIONES: *La bupivacaína a 0,5% y la ropivacaína a 0,5%, ofrecieron un alivio eficaz y prolongado del dolor postoperatorio después de la artroplastia total de la cadera, sin diferencia clínica, cuando dosis equivalentes fueron administradas en el bloqueo del plexo lumbar por la vía posterior.*