Reply

To the Editor,

We would like to thank Drs. Barbosa, Pinto, and Cunha for their interest in our study published on Revista Brasileira de Anestesiologia [1]. As our colleagues emphasized, we attempted when developing the study to obtain answers to guide us on our daily practice. Since there were some doubts on the objective of the study, we will try to make it clearer. Our intention was to evaluate the duration of analgesia provided by the posterior brachial plexus block using three different concentrations of ropivacaine (0.5, 0.75, and 1%), as well as to determine whether the analgesia provided by those three concentrations would show any differences. In other words, we wanted to know if the increase in the concentration of ropivacaine would increase the duration of the analgesia.

We use a postoperative analgesia based on the combination of dypirone, NSAIDs, opioids, and local anesthetics (multimodal analgesia). In a previous study, the use of dypirone and NSAIDs was not fixed [2]. However, in the present study we decided its use would be pre-established so the conditions of the study would be a more faithful representation of our daily practice. For this reason, the use of dypirone and NSAIDs was included in the design of the study to make it as close as possible to what we practice daily. All patients in all groups received those drugs, making them homogenous (the use of the same drugs in all groups is cancelled in the context of comparison). The conclusions of the study should consider the conditions it was undertaken. In the absence of those drugs, the duration of analgesia might have been different, and we might have seen differences among the groups. Besides, we emphasized that all patients received clonidine to achieve controlled hypotension. It is known that clonidine prolongs the effects of the blockade and, therefore, the results might have been different in the absence of this drug. We applied the same principle of considering the conditions in which the study was conducted.

To calculate the size of the study population, it would have been necessary to have some notion of the difference in the duration of the analgesia provided by the posterior brachial plexus block with the three concentrations of ropivacaine used. However, we did not have a reference in the literature to use as a base. Since we intended to achieve a prolonged analgesia (clinical objective), we went from a concentration considered to be moderate (0.5% ropivacaine) to a high concentration (1% ropivacaine). We imagined that the 100% difference (0.5 to 1%) in concentration from one group to the other would be enough to detect a clinical difference if it existed. One percent is the highest concentration of ropivacaine available for clinical use, and concentrations below 0.5% are considered low. It is a fact that small differences among groups can only be observed with large groups. Those small differences (e.g., 1 hour) although statistically significant, would not have been clinically significant. The increase in the total mass of the anesthetic and consequently in the risk of toxicity would not be justified in the presence of such small difference in the duration of analgesia that might have been detected. Therefore, we confirm the conclusion of the study that the increase in the concentration of ropivacaine from 0.5% to 1% did not bring any clinical benefits.

Finally, the observation on the improper use of the term efficiency at the end of the discussion is absolutely pertinent. The correct term would be efficacy, which was used throughout the report. This observation raised the curiosity on cost analysis. At the institution where the study was conducted, 0.75% ropivacaine has a price of six reais (R$ 6,00) cheaper than 1% ropivacaine; 0.5% ropivacaine is not commercially available, being obtained by the dilution of higher concentrations, which adds eight cents (R$ 0,08) for the distilled water.

Sincerely,

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