In Response to Comments on "Comparison of Erector Spinae Plane Block at the Level of the Second Thoracic Vertebra With Suprascapular Nerve Block for Postoperative Analgesia in Arthroscopic Shoulder Surgery"

To the Editor:

The author thanks the researcher for being interested in his study.

As you reported that our study is the first trial to compare high thoracic-ESPB and SSNB block techniques for arthroscopic shoulder surgeries, which demonstrated these 2 methods of nerve block as a part of multimodal analgesia for relief of postoperative pain in shoulder surgery. Accordingly, this study can direct clinical practice in some way.

Regarding the first concern about patients' groups the rationale of our study is to compare the two- interscalene brachial plexus block (ISB) alternatives that were previously proposed in the literature (high thoracic-ESPB and SSNB) in the context of avoiding the ISB-associated side effects (1). ISB was extensively investigated and recognized as the gold standard for shoulder surgeries. ISB was compared before with high thoracic-ESPB (2), and it was concluded that both were effective analgesic blocks, but ISB provided a superior opioid-sparing effect in the immediate postoperative period. ISB was also compared with SSNB (3), and it was found that SSB was as effective as ISB for pain control within the first 24 hours, but ISB was more effective in relieving pain in the recovery room. In our investigation, the move towards a more safe and more effective pain management practice was encouraged. Accordingly, we did not consider ISB in our study, instead, a control group (opioid-consuming group) was preferred.

Regarding the second concern about sample size calculation, our study's objective is to compare the efficacy of high thoracic-ESPB and SSNB as analgesic options for arthroscopic shoulder surgery. Analgesic efficacy was assessed through two co-primary outcomes; pain scores and morphine consumption 24 hours postoperative. When the mean of pain scores was considered for sample size calculation, the calculated sample size was smaller than the sample size calculated based on the mean of total morphine doses. Hence, the sample size was calculated according to the total morphine doses to achieve adequate power for the primary outcome analysis. You recommended that our study should be a non-inferiority investigation. However, our study was a controlled trial. We compared two blocks against an opioid-consuming control group. The previous investigations indicated that both blocks provided superior and safer pain management when compared with control groups (4,5). Based on these previous studies, the sample size should be tested by a two-sided alpha level. Moreover, when the sample size calculation is based on a one-sided alpha level, as in the case of a non-inferiority trail, a smaller sample size is typically required than in two-sided alpha-level trials (6). Our findings supported the results of the previous studies and indicated that both blocks had significantly higher analgesic efficacy than the opioid-consuming control group. In addition, high thoracic ESPB is not yet referred to as a gold standard for arthroscopic surgery. Indeed, high thoracic-ESPB is a newly emerging plane block technique and is still under investigation. Finally, our results indicated that no significant difference between both blocks except with movement at early postoperative periods.

Regarding the third concern about acetaminophen and NSAID therapy, the combination therapy using acetaminophen and NSAID is an accepted practice for acute postoperative pain control. The combination was frequently investigated, and it was concluded that these combinations provide a superior analgesic effect rather than monotherapy and decrease opioid consumption significantly perioperatively (7). However, to avoid NSAID-associated complications throughout our study, a prophylactic dose of pantoprazole 40 mg was given once. Good patient hydration was also maintained in the perioperative settings. By reviewing the demographic patients' data in our study, you could note that the mean values ± SD of ages were; 45.9 ± 6.7, 47.5 ± 7.9, and 48.8 ± 6.3 in HT-ESPB, SSNB, and control groups, respectively. Most Patients who were recruited to the study were active young patients with

ASA I and II status. No detected toxic side effects were reported during our study. The methodology sections indicated also that the follow-up duration was 24 hours postoperatively. Acetaminophen 1 gm was given every 6 hours as mentioned in the study.

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